PROJECT MANUAL

PROJECT PLANS AND SPECIFICATIONS
PUBLIC HEALTH SERVICES BIO-SAFETY LEVEL 3 MODULAR LABORATORY SITE PREPARATION PROJECT

Owner
San Joaquin County
Board of Supervisors
County Administration Building
Stockton, CA 95202

Project Manager
General Services – Capital Projects
44 N. San Joaquin Street, Suite 590
Stockton, CA 95202
209-468-3357

Architect Engineers
Siegfried Engineering, Inc.
3244 Brookside Road, Ste. 100
Stockton, CA 95219

SPECIFICATIONS

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NOTICE INVITING BIDS

NOTICE IS HEREBY GIVEN that sealed bids will be received by the Board of Supervisors of the County of San Joaquin, State of California, at General Services Department – Capital Projects, San Joaquin County Administration Building, 44 N. San Joaquin Street, Suite 590, Stockton, CA 95202, until 10:00 AM, June 22, 2012, for furnishing all labor, material, tax, transportation, equipment, and services necessary for the construction and completion of the San Joaquin County Public Health Services Bio-Safety Level 3 Modular Laboratory Site Preparation Project, Stockton, CA, all in accordance with the specifications and working details and other contract documents now on file with the Clerk of the Board of Supervisors, Suite 627, San Joaquin County Administration Building, located as noted above.

NOTICE IS ALSO GIVEN that a **mandatory** prebid conference for all bidders is tentatively scheduled for 10:00 AM on June 4, 2012, at Public Health Services, 1601 E. Hazelton Avenue, Stockton, CA. Bids will not be accepted from any general contractor not attending this prebid conference.

Bids will be opened and tabulated by or on behalf of the San Joaquin County Board of Supervisors at General Services Department – Capital Projects Division immediately after 10:00 AM, on said June 22, 2012.

Copies of the contract documents may be purchased through ARC Stockton Blue (formerly Stockton Blueprint) Plan Well @www.stocktonblue.com, or at the ARC Stockton Blue Office, 1421 N. El Dorado Street, Stockton, CA 95202, (209)464-6012. If you have any questions or problems obtaining the contract documents, please call David Castagna, General Services Department – Capital Projects at (209) 468-9598.

Bids must be from contractors holding a State of California A-General Engineering Contractor license or B-General Building Contractor license or C-10 Electrical Contractor license. Bids must be sealed and accompanied by certified check, cashier's check, or bid bond made payable to the County of San Joaquin in the sum of not less than ten percent (10%) of the amount of the bid. The check or bonds shall be given as a guarantee that the successful bidder will enter into a written contract within ten (10) calendar days after being requested to do so and will be considered as the stipulated amount of liquidated damages in the event the bidder is unable to or refuses to execute a contract for the work.

The general prevailing wage rates have been determined by the Director of the California Department of Industrial Relations and it shall be mandatory upon the contractor to whom the contract is awarded, and upon any subcontractor, to pay not less than these specified rates to all laborers, workmen, mechanics and apprentices employed by them in execution of the contract, all in accordance with the provisions of Labor Code Sections 1770 through 1781, inclusive. Copies of the general prevailing wage rates are on file with and available upon request from the Clerk of the Board of Supervisors.

San Joaquin County has adopted a goal to strongly encourage local hire participation in the construction workforce in accordance with Board of Supervisors policy.

a. Contracts estimated by the County to be less than $200,000 do not have a local hire goal.
b. Contracts estimated by the County to cost $200,000 or more require the successful bidder to demonstrate their attempts to employ local hire.

Bids shall be made upon the form provided by the County and shall be properly completed with all items filled out; numbers shall be in writing and figures; the signatures of all persons signing shall be in longhand. No bidder may withdraw his bid for a period of 60 calendar days after the time set for the opening of bids, and the Board will act to accept or reject bids within that period of time.

Upon the contractor's request, the County will make payment of funds withheld from progress payments pursuant to the requirements of Public Contract Code Section 22300 if the contractor deposits in escrow with the County's Treasurer-Tax Collector, or with a bank acceptable to the County, securities eligible for the investment under Government Code Section 16430, bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the contractor and the County. The escrow agreement between the contractor and the County in this regard shall be substantially similar to the form set forth in Public Contract Code Section 22300(f).

The Board reserves the right to reject any or all bids, and further reserves the right to waive any informalities or irregularities in the bids.

INSTRUCTIONS TO BIDDERS

Bids: Bids, to receive consideration, shall be made in accordance with the following instructions.

a. Bids shall be made on the bid form provided by the Owner, a copy of which is included in these documents, All items on the form should be filled out; numbers should be stated both in writing and in figures and the signatures of all individuals must be in longhand. The completed form shall be without interlineations, alterations, or erasures.

b. Bids shall not contain any recapitulation of the work to be done, and alternative bids will not be considered unless called for.

c. Questions from interested prospective bidders will only be accepted by the County in writing via written correspondence or via Internet electronic mail (preferred) to David Castagna, at the General Services - Capital Projects offices located at 44 N. San Joaquin Street, Suite 590, Stockton, CA, or at dcastagna@sjgov.org, respectively. Non-substantive oral questions may be directed to Mr. Castagna at (209) 468-9598. The Owner, General Services Department - Capital Projects Division, will send written instructions to all bidders. Neither Owner nor its representative will be responsible for any oral instructions. No interpretations will be issued later than three (3) calendar days prior to the bid date so that all inquiries can be answered in writing and distributed to all bidders in the form of addenda to the contract in ample time before the bid opening date.

d. All addenda issued during the bidding period are to be included in the bid, and they will become a part of the contract for the project.

e. Pursuant to the provisions of Sections 4l00 to 4113, inclusive, of the Government Code, every bidder shall in his bid set forth:

(1) The name and location of the place of business of each subcontractor who will perform work or labor or render service to the bidder in or about the work in an amount in excess of one-half of one percent of the total bid.

(2) The portion of the work which will be done by each subcontractor. If the bidder fails to specify a subcontractor for any portion of the work to be performed under the contract in excess of one-half of one percent of the total bid, he agrees to perform that portion himself.

The successful bidder shall not, without the consent of the Owner:

(a) Permit any subcontract to be assigned or transferred or allow it to be performed by anyone other than the original subcontractor listed in the bid.

(b) Other than in the performance of change order, sublet or subcontract any portion of the work in excess of one-half of one percent of the total bid as to which his original bid did not designate a subcontractor.

(c) The Owner may legally consent to a substitution only in the limited cases enumerated in Section 4107 of the Government Code.

f. Bids must be accompanied by a certified or cashier's check, or bidder's bond, for an amount not less than ten percent (10%) of the bid, made payable to the order of the County of San Joaquin. If a bidder's bond accompanies the bid, the bond shall be secured from a surety company satisfactory to the Owner. Said check or bond shall be given as a guarantee that the case of refusal or failure to enter into a contract, it is agreed that the check or bond, as the case may be, shall be retained by the Owner as the measure of stipulated liquidated damages.

g. Bids shall be addressed to the Owner and shall be delivered to the Owner enclosed in an opaque sealed envelope, addressed to the San Joaquin County General Services Department - Capital Projects Division, 44 N. San Joaquin Street, Suite 590, Stockton, California, 95202. Each envelope shall bear the title of the work and the name of the bidder. No telephonic or telegraphic bids or amendments to bids shall be effective.

Withdrawal of Bids: Bids may be withdrawn by the bidder prior to but not after the time fixed for opening of bids.

Opening of Bids: Bids will be opened and read at or about the time set in the advertised Notice Inviting Bids. Bidders, or their representatives, and other interested persons may be present at the opening of bids.

Award or Rejection of Bids: The contract, if awarded, will be awarded to the lowest responsible bidder based on the lowest total bid received and in compliance with these instructions and the advertised Notice Inviting Bids, provided his bid is reasonable and it is to the interest of the Owner to accept it. If the bid form contains additive and/or

deductive alternates, the Owner, for cost considerations, may select additive and/or deductive alternates before determining the lowest bidder. The competency and the responsibility of bidders and of their proposed subcontractors will be considered in making the award of contract. Any bidder before being awarded a contract may be required to furnish evidence satisfactory to the Owner that he and his proposed subcontractors have sufficient means and experience in the type of work called for to assure completion of the contract in a satisfactory manner. The Owner reserves the right to reject the bid of any bidders who have previously failed to perform properly or to complete on time contracts with the Owner of a nature similar to this project. The Owner reserves the right to reject any or all bids or alternates and waive any informality or irregularity in the bids or in the bidding.

Examination of Contract Documents and Site of Work: Before submitting a bid, bidders should examine the drawings, read the specifications, the "Form of Agreement" and other contract documents. They should visit the site of the proposed work, examine any improvements and any work that may have been done thereon. They should fully inform themselves of all conditions on, in, at, and about the site, the building and the proposed new work that is to be done thereon. There shall be included in the bid a sum sufficient to cover the cost of all items included in the contract.

Form of Contract: The form of contract which the successful bidder will be required to execute, if awarded the work, is the San Joaquin County General Construction Contract, which is set forth herein.

Equals: Pursuant to Section 3400 of the Public Contract Code, any item or requirement calling for a designated material, product, thing, or service by specific brand or trade name shall be construed as being followed by the words "or equal" so that bidders may finish any material, product, thing or service which is in all respects equal to the item specified, including but not limited to size, quality, guarantees, and materials. The proposed “equal” must in all respects be equal to or better than the item for which it is proposed to be substituted.

Stockton Builders Exchange: A copy of the specifications, working details, and other contract documents for the project are on file at the Stockton Builders Exchange. The Stockton Exchange is located at 7500 North West Lane, Stockton, California 95202.

Insurance – Bonds: The successful bidder will be required to obtain Worker's Compensation Insurance coverage, Bodily Injury and Property Damage Liability Insurance, and Builder's Risk (Fire) Insurance. He will also be required to furnish Faithful Performance and Payment (Labor and Material) surety bonds.

All bonds submitted to the County of San Joaquin must be printed on the letterhead or similar document of the Surety. The bond form must provide an address and a telephone number where the County may contact the surety for any questions regarding the bonds. In Addition, **both** the signature of the principal and the signature of the surety **must be acknowledged before a notary** and certificates of acknowledgment must accompany the bonds.

Completion Date - Liquidated Damages: Time is of the essence in this contract. Contractor must commence work on the project the first working day following receipt of Notice to Proceed issued by the Owner.

a. The project must be completed within 45 calendar days after he commences work.

b. The contract will provide for liquidated damages in the amount of $1,000 per day for each day the work is not completed beyond the time specified in the preceding paragraph and in the Bid Form. The contract will provide a bonus of $100 per day for each day completed before the time specified in the preceding paragraph.

Worker's Compensation: In accordance with the provisions of Section 3700 of the Labor Code, every contractor will be required to secure the payment of compensation to his employees. Each contractor to whom a public works contract is awarded is required to sign and file with the awarding body the following certification prior to performing the work of the contract:

> "I am aware of the provisions of Section 3700 of the Labor Code which requires every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work on this contract."

Anti-Discrimination: The successful bidder shall not discriminate against any employee or applicant for employment because of race, creed, color, sex or national origin. The contractor shall comply with all provisions of Executive Order No. 10925 of March 6, 1961, as amended, and all rules, regulations and relevant orders of the Presidents Committee on Equal Employment Opportunity created thereby.

Local Hire: San Joaquin County has adopted a policy goal to strongly encourage local hire and apprenticeship participation in the construction workforce in accordance with Board of Supervisors policy. Bidders attention is directed to the following provisions relating to this policy:

a. For purposes of this policy only, the definition of contractor is limited to the total workforce of the prime or principal contractor and all subcontractors who will work in San Joaquin County under the construction contract.

b. A "local hire" is defined as an employee whose residence is within San Joaquin County at the time of opening of bids for the project.

c. Bidders are to complete the "Bidder Local Hire Information Form and Checklist."

With respect to application of the local hire policy, bidders attention is directed to the following:

a. San Joaquin County Board of Supervisors hereby adopts a policy to strongly encourage, within the constraints of federal and state law, the employment of County residents on County funded construction projects.

b. Bidders on construction projects will be required to complete a Local Hire Information Form to be submitted with construction bids in excess of $200,000, which indicates the bidder's effort to employ local hire.

c. In the event that two or more bids are the same and the lowest, the County shall award the contract in accordance with the best intended effort of the bidder to employ local residents as indicated on the bidder Local Hire Information Form.

(1) Contracts estimates by the County to be less than $200,000 do not have a local hire goal.
(2) Contracts estimated by the County to cost $200,000 or more require the successful bidder to demonstrate their attempts to employ local hire.

Apprenticeship Program: Unless such provision would conflict with a state or federal law or regulation applicable to a particular contract for a public works project, County contracts for public works in excess of $200,000 shall contain provisions pursuant to which each contractor or subcontractor shall make a good faith effort to employ apprentices who are enrolled in and participating in a viable apprenticeship program serving the San Joaquin County and approved by the State Department of Apprenticeship Standards. This apprenticeship requirement shall apply for each apprenticable craft or trade in which the contractor employs workers in performing any of the work under the contract. A contractor may evidence its good faith effort by complying with California Labor Code Section 1777.5 and the implementing regulations and seeking apprentices from apprenticeship programs service the San Joaquin County.

A contractor employing apprentices pursuant to this section shall employ apprentices in a ratio consistent with the provisions of the California Labor Code or federal requirements as applicable for federal aid contracts.

This section shall not be construed to exempt a contractor from any other applicable requirement imposed upon the contractor by federal or state law.

Prebid Conference: A ***mandatory*** prebid conference for all bidders is tentatively scheduled for Monday, Monday, June 4, 2012 at 10:00 AM, at Public Health Services, 1601 E. Hazelton Avenue, Stockton, CA. Bids will not be accepted from any general contractor not attending this prebid conference.

Unique Requirements: Contractor is advised to review the specifications, specifically the General Conditions for unique requirements. Special attention and protection will be necessary to avoid any detrimental effects to occupied facility caused by dust, vibration, demolition, inclement weather, roof removal, noise, fumes, etc. By submission of bid, contractor acknowledges and accepts the related construction limitations.

Commencement of Work: Work must begin the first working day following the date stipulated on the Notice to Proceed. This may or may not be the same date as the contract. The Notice to Proceed will be issued in a reasonable amount of time. If it is not the same day as the award of contract, then no later than 40 calendar days.

Bid Opening Date

June 22, 2012
Hour of Bid Opening

10:00 AM

Honorable Board of Supervisors
County of San Joaquin
General Services Department - Capital Projects
44 N. San Joaquin Street, Suite 590
Stockton, CA 95202

Dear Board Members:

Pursuant to the Notice Inviting Bids, and in compliance with the Instructions to Bidders, having reviewed the contract documents and the site(s) of the work, the undersigned hereby proposes to furnish all work, labor, materials, transportation, equipment and services necessary, including State of California and local sales or use taxes, license or permit fees, if any, for the construction and completion of

Public Health Services Bio Safety Level 3
Modular Laboratory Site Preparation Project

All in accordance with the specifications and drawings and other contract documents, together with Addenda issued at the time of bidding, if any, now on file with General Services - Capital Projects of San Joaquin County, for the sum of:

_____**($_____).** (Base Bid)

Deductive Bid Alternate A
For deleting all framing, sheathing, hardware, roofing and related features for the canopy between the BSL3 and the existing building as outlined in the plans and specifications, please deduct from the base bid sum the amount of

($_____).

Deductive Bid Alternate B
For deleting the emergency generator, transfer switch, and enclosure/pad as outlined in the plans and specifications, please deduct from the base bid sum the amount of

($_____).

AWARD: County reserves the right to choose any, all or none of the Alternates. The Contract will be awarded on the basis of the lowest Base Bid combined with the County's selected combination of alternates. Bids must include alternate pricing. Bids that fail to include alternates will be considered incomplete and will be rejected.

Addenda Received:_____
_____
_____
_____

If awarded the contract, work will commence on the first working day following receipt from the Owner of the Notice to Proceed

FILL IN ALL BLANKS

Enclosed please find a ( ) cash deposit, ( ) cashier's check ( ) certified check, or ( ) surety bid bond (check as appropriate) of the _____
in an amount not less than ten percent (10%) of the amount of the bid. If the enclosure is a check or bond, it is made payable to the County of San Joaquin.

The undersigned agrees that the enclosed cash deposit, cashier's check, certified check or surety bond accompanying this bid, shall be left on deposit with the General Services - Capital Projects, that this amount is the measure of the liquidated damages which the County of San Joaquin will sustain by the default of the undersigned through failure to execute and deliver the above agreement and bonds within ten (10) calendar days of written notice of the award of the contract and that the money or surety bond so deposited by contractor shall be collectible and become the property of the County of San Joaquin in cash of such default.

Within seven (7) calendar days after the date of the bid opening, the responsible low bidder shall deliver to the Owner's Representative, in a form acceptable to said Owner's Representative, a complete cost breakdown for the project herein bid.

Listed hereunder is the name of each subcontractor and the address of the mill, shop or office of each subcontractor who will perform work or labor or render service to the undersigned in or about the construction of the work hereinabove described in excess of one-half of one percent of the total bid and the portion of said work which will be done by each subcontractor, if the contract for the said work is awarded to the undersigned. (Attach additional sheet, if necessary, and note attachment on this page.) (See Public Contract Code Sections 4100-4113.)

NAME OF SUBCONTRACTOR	ADDRESS	TYPE OF CONTRACT WORK	PORTION OF WORK TO BE PERFORMED ($ or % of Total Bid)

By submission of a bid, a bidder certifies possession of duly issued and valid contractor's license issued by the State of California, which license authorizes bidder to contract to perform the type of work required by the specifications. Should the bidder fail to provide below the number and classification of bidder's State of California Contractor's License, the Owner may reject this bid therefore.

CONTRACTOR: _____

BY (Signature): _____

TITLE: _____

MAILING ADDRESS: _____

_____

TELEPHONE NO: _____

STATE OF CALIFORNIA LICENSE NO. _____

STATE OF CALIFORNIA LICENSE CLASSIFICATION: . A-General Engineering Contractor License or B-General Building Contractor License or C-10 Electrical Contractor License.

_____

DATED: THIS _____DAY OF _____, 20_____.

NONCOLLUSION AFFIDAVIT TO BE EXECUTED

BY BIDDER AND SUBMITTED WITH BID

State of California)
)
County of San Joaquin) ss.

_____, being first duly sworn, deposes and says that he or she is _____ of _____ the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

_____
(Bidder Signature)

_____
(Date)

CERTIFICATION OF A DRUG-FREE WORKPLACE

(Must be Submitted With Bid)

This certification is required by the regulations implementing the Drug-Free Workplace Act of 1990 (Chapter 1170, Statutes of 1990). The regulations as set forth in Chapter 5.5 (commencing with Section 8350) Division I of Title 2 of the Government Code requires every person or organization awarded a contract or a grant for the procurement of any property or services from any State agency to certify to the contracting or granting agency that it will provide a drug-free workplace. The certification set out below is a material representation of fact upon which reliance will be placed when the agency determines to award the grant or contract. The contract or grant may be subject to suspension of payments or termination of the contract or grant, or both, and the contractor or grantee thereunder may be subject to debarment if the agency determines that the contractor or grantee has made a false certification or violates the certification by failing to carry out the requirements as listed below. (Chapter 5.5, Section 8356, Division I of Title 2 of the Government Code.)

By my signature hereunder, as contractor/grantee or contractor/grantee's duly appointed representative, I certify that I or my firm or organization will provide a drug-free workplace by:

A. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace and specifying the actions that will be taken against employees for violation of the prohibition.

B. Establishing a drug-free awareness program to inform employees about all of the following:

1. The dangers of drug abuse in the workplace
2. The person's or organization's policy of maintaining a drug-free workplaces
3. Any available drug counseling, rehabilitation, and employee assistance programs;
4. The penalties that may be imposed upon employees for drug abuse violations

C. Making it a requirement that each employee engaged in the performance of the contract or grant be given a copy of the statement required by Paragraph A, above, and that, as a condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

This certification shall not be construed to require any contractor or grantee to ensure that other businesses with which it subcontracts also provide drug-free workplaces. (Chapter 5.5, Section 8357, Division 1 of Title 2 of the Government Code.)

_____
Contractor

_____
CONTRACTOR Address

LICENSE NO._____ _____

FEDERAL EMPLOYER _____

ID NO._____ Signature

_____
Title

BIDDER LOCAL HIRE
INFORMATION FORM AND CHECKLIST

Project Name: Public Health Services
Bio-Safety Level 3 Modular Laboratory
Site Preparation Project

Bid Amount $:_____

Bidders are required to complete and submit this Form and Checklist with their bid

Bidder's Name:_____

Address:_____

_____

Bid Opening Date: June 22, 2012 @10 AM

LOCAL HIRE INFORMATION	YES	NO
Contractor agrees to attempt to employ local hire in their workforce and the workforce of their subcontractors.		
Contractor agrees to purchase at least one display ad in a newspaper of general circulation in San Joaquin County announcing job opportunities on the construction project and encouraging local residents to apply.		

Contractor intends to secure his workforce from the following sources: (Please Describe)

_____

_____

_____

(SPECS\2008\CO-P-7

LOCAL HIRE INFORMATION CHECKLIST

COUNTY OF SAN JOAQUIN

Please check all boxes that apply:

☐ Placed a valid job order for existing and projected position vacancies with the local office of the State Employment Development Department, for no less than 10 consecutive calendar days.

☐ Placed a valid job order for existing and projected position vacancies with Worknet of San Joaquin County, for no less than 10 consecutive calendar days.

☐ Advertised existing and projected position vacancies, job informational meetings, job application workshops, and job interviews by posting notices which identify the position(s) to be filled, the qualifications required, and where to obtain additional information about the application process, in conspicuous local authorized public places, including but not limited to post offices and libraries.

☐ Conducted a job informational meeting to inform the community of employment opportunities of the contractor (may be combined with other contractors).

☐ Provided ongoing assistance to residents of San Joaquin County in completing job application forms.

☐ Conducted a job application workshop to assist the community in applying and interviewing for jobs in the contracting industry (may be combined with other contractors).

☐ Conducted job interviews within San Joaquin County.

☐ Advertised valid existing and projected position vacancies through the local media, such as community television network, local newspapers of general circulation, and trade papers or minority focus newspapers.

☐ Any other means of obtaining employees who reside within San Joaquin County that are reasonably calculated to comply with the goals of this policy. Please describe: _____

_____

_____

Please provide supporting documentation for all boxes checked. Sign and submit form and checklist with your bid.

I declare the above information is true and accurate and submitted under penalty of perjury.

By my signature below, I acknowledge that I have met the requirements of the County's Local Hire Policy.

_____ _____

Owner/Authorized Representative (Signature) Name of firm

_____ _____

Name and Title (Print)

SAN JOAQUIN COUNTY

GENERAL CONSTRUCTION CONTRACT

DATED:

PARTIES:

OWNER:
COUNTY OF SAN JOAQUIN
44 N. San Joaquin Street, Suite 627
Stockton, CA 95202

CONTRACTOR:

THE WORK:
San Joaquin County Public Health Services
Bio-Safety Level 3 Modular Laboratory Site
Preparation Project

ARCHITECT/ENGINEERS:
Siegfried Engineering, Inc.
3244 Brookside Road, Suite 100
Stockton, CA 95219

THE OWNER AND THE CONTRACTOR AGREE THAT:

1. The Contract Documents. The complete Contract consists of the following documents:
   Notice Inviting Bids
   Accepted Bid
   General Construction Contract (including Addenda)
   Labor and Material Bond
   Faithful Performance Bond
   Specifications and General & Supplemental Conditions
   Drawings

2. The Work. The Contractor shall perform all the work required by the Contract Documents.

3. Time for Completion. All work under this Contract shall be completed within 45 calendar days, starting the first working day following receipt from the Owner of the Notice to Proceed.

4. Contract Price. The Owner shall pay, in full payment for the work, for the base bid sum of _____ (_____) **Dollars,** subject to additions and deductions as provided in the Contract Documents.

5. Liquidated Damages. Liquidated damages shall be:

    1. **One Thousand and no/100 ($1,000.00) Dollars** for each day the work is not completed beyond the time specified.

    2. If the work is completed and accepted by the Owner before the time required, the Owner will pay a premium to the Contractor at the rate of **One Hundred and no/100 ($100.00) Dollars** for each day (See General Conditions.)

6. Additional Provisions. None

This contract, entered into as of the date first written above.

ATTEST: LOIS M. SAHYOUN
Clerk of the Board of Supervisors of the
County of San Joaquin, State of California

By_____
Deputy Clerk

(SEAL)

COUNTY OF SAN JOAQUIN, a political
Subdivision of the State of California

By_____
STEVE J. BESTOLARIDES, Chairman
Board of Supervisors

"OWNER"

APPROVED AS TO FORM:
County Counsel

By_____
Jason R. Morrish
Deputy County Counsel

By _____

Title _____

BY OWNER

State of California

County of San Joaquin

On this ___ day of _____ 2012, before me KENNETH W. BLAKEMORE, County Assessor/Recorder/Clerk of the County of San Joaquin, State of California, personally appeared STEVE J. BESTOLARIDES known to be (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument as Chairman of the Board of Supervisors of the County of San Joaquin, State of California, and acknowledged to me that the political subdivision executed it.

KENNETH W. BLAKEMORE, County Assessor/Clerk/Recorder

BY_____

Deputy Clerk

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

State of California

County of _____

On_____ before me_____

Date Name, Title of Officer – E.G.,"Jane Doe,,Notary Public"

Personally appeared_____

Name(s) of Signers(s)

☐ Personally known to me – **OR** – ☐ proved to me on the basis of satisfactory Evidence to be the person(s) whose name(s) Is/are subscribed to the within instrument and Acknowledged to me that he/she/they executed The same in his/her/their authorized capacity(ies), And that by his/her/their signature(s) on the Instrument the person(s), or the entity upon Behalf of which the person(s) acted, executed the Instrument.

WITNESS my hand and official seal.

SEAL

_____

SIGNATURE OF NOTARY

OPTIONAL SECTION
CAPACITY CLAIMED BY SIGNER
Though statute does not require the Notary to fill in the date below, doing so may prove invaluable to persons relying on the document

☐ INDIVIDUAL

☐ CORPORATE OFFICER(S)

_____
Title(s)

☐ PARTNERS ☐ LIMITED

☐ GENERAL

☐ ATTORNEY-IN-FACT

☐ TRUSTEE(S)

☐ GUARDIAN/CONSERVATOR

☐ OTHER:_____

_____

_____

SIGNER IS REPRESENTING:
NAME OF PERSON(S) OR ENTITY(IES)

_____

OPTIONAL SECTION

THIS CERTIFICATE MUST BE ATTACHED TO THE DOCUMENT DESCRIBED AT RIGHT:

Though the data requested here is not required by law, it could prevent Fraudulent reattachment of this form.

TITLE OR TYPE OF DOCUMENT_____

NUMBER OF PAGES_____**DATE OF DOCUMENT**_____

SIGNER(S) OTHER THAN NAMED ABOVE_____

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, the Board of Supervisors of the County of San Joaquin, a political subdivision of the State of California, has entered into a contract with_____
_____
(hereinafter designated as the "Principal"), which said contract, dated _____, referred to and made a part hereof, is for the work described below:

AND WHEREAS, said Principal is required by the provisions of Chapter 7, Title 15, Part 4, Division 3, Section 3247 et seq., of the Civil Code of the State of California, to furnish a bond in connection with said contract, as hereinafter set forth.

NOW, THEREFORE, said Principal and_____
_____
as corporate Surety, are held firmly bound unto the County of San Joaquin and all contractors, subcontractors, laborers, materialmen and other persons employed in the performance of the aforesaid contract and referred to in the aforesaid Civil Code in the sum of _____
_____($ _____), for materials furnished or labor thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to such work or labor, that said Surety will pay the same in an amount not exceeding the amount herein above set forth, and also in case suit is brought upon this bond, will pay, in addition to the face amount thereof, costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by County in successfully enforcing such obligation, to be awarded and fixed by the court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under Title 15 (commencing with Section 3082) of Part 4 of Division 3 of the Civil Code of the State of California, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void, otherwise it shall be and remain in full force and effect.

The Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of contract or the specifications accompanying the same shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the specifications.

In witness whereof, this instrument has been duly executed by the Principal and Surety above named, on _____, 20 _____.

_____
(Typed Name) (Title)
Principal

(ATTACH CERTIFICATES OF ACKNOWLEDGEMENT HERE)

(Name of Surety)

_____
(Typed Name) Attorney-in-Fact

Public Health Services Bio-Safety Level 3 Modular Laboratory Site Preparation Project

Performance Bond

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, the Board of Supervisors of the County of San Joaquin, a political subdivision of the State of California, has entered into a contract with _____

_____

(hereinafter designated as the "Principal"), which said contract, dated_____, referred to and made a part hereof, is for the work described below:

AND WHEREAS, said Principal is required under the terms of the contract to furnish a bond for the faithful performance of said contract;

NOW, THEREFORE, we the Principal and _____

_____

(hereinafter designated "Surety") are held and firmly bound unto the County of San Joaquin (hereinafter designated as "Obligee"), its successors and assigns, in the penal sum of _____

_____ dollars ($_____) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, successors, executors and administrators, jointly and severally, firmly by these presents.

The condition of this obligation is such that if the above bounded principal, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and provisions in the said contract and any alteration thereof made as therein provided, on his or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the Obligee, its officers, agents and employees, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As part of the obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by Obligee in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

The Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of contract or to the work to be performed thereunder or the specifications accompanying the same shall in anywise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

In witness whereof, this instrument has been duly executed by the Principal and Surety above named, on _____, 20_____.

_____

(Typed Name) (Title)
Principal

(ATTACH CERTIFICATES OF ACKNOWLEDGEMENT HERE)

(Name of Surety)

_____

(Typed Name) Attorney-in-Fact

A. GENERAL

Clause 1 - Definitions

Whenever the following terms, pronouns in place of them, or initials of organizations appear in the contract documents, they shall have the following meaning:

Acceptance - "Acceptance" is when the Owner determines all of the contract requirements have been completed (based on the closeout procedures set forth herein). A copy of Board acceptance will be sent to the Contractor. Upon receipt of the acceptance, the Contractor will be relieved of the duty of maintaining and protecting the work. After acceptance of the work, the Owner will initiate final settlement and payment in accordance with state statutes.

Act of God -"Act of God" means an earthquake of magnitude 3.5 or greater on the Richter scale, flood, tornado, or other cataclysmic phenomenon of nature or rain, snowstorm windstorm, high water, or other natural phenomenon in excess of the norm as established by NOAA weather data.

Addendum - A document issued by the Owner during the bidding period which modifies, supersedes, or supplements the original contract documents.

AED - Association Equipment Distributors. Organization providing a listing of equipment rental charges.

Agreement - The written document of agreement, executed by the Owner and the Contractor.

Architect/Engineer - Shall mean the architect, engineer, individual, partnership, corporation, association, joint venture or any combination thereof, employed by the Owner as designated on the title sheet of these specifications. When the Owner is designated as the Engineer, Engineer shall mean the County Administrator, or its authorized representative.

Beneficial Occupancy - The right of the Owner to occupy all or any portion of the project prior to final completion of the work. Such occupancy does not constitute acceptance or substantial completion by the Owner of the work or any portion thereof, nor will it relieve the Contractor of the responsibility for correcting the defective work or materials found at any time before acceptance of the work.

Bid - The offer of the bidder to perform the work when made out and submitted on the prescribed bid form, properly executed and guaranteed.

Bid Form - The approved form upon which the Owner requires a formal bid be prepared and submitted for the work.

Bidder - Any individual, partnership, corporation, association, joint venture, or any combination thereof, which has submitted a proposal for the work, acting directly, or through a duly authorized representative.

Board or Board of Supervisors - Shall mean the duly elected or appointed officials who constitute such a Board, who have the ultimate legal authority in all matters pertaining to the contract.

Bulletin - A "bulletin" is a document consisting of supplemental details, instruction or information, issued by the Architect/Engineer through the Owner after the Award of Contract which clarifies or corrects the contract documents in connection with the performance of the contract which may supplement the Request for Information documents.

Change or Change Order - Is a document issued by the Owner which authorizes any change or equitable adjustment to the Contract Documents.

Construction Manager - "Construction manager" or owner representative as used under this contract, shall be as selected by the Owner. The construction manager will be the Owner's duly authorized representative and agent to the Contractor with respect to this project during construction and until the final completion.

Contract - The "contract" or "contract documents" shall mean the written agreement covering the performance of the work and the furnishing of labor, materials, tools, and equipment in the construction of the work. The contract shall include the Notice to Contractors, supplemental conditions, proposal, drawings, specifications, special provisions, instructions to bidders, addenda, General conditions, and contract bonds; also, any and all supplemental agreements are written agreements covering

alterations, amendments or extensions to the contract and include contract change orders.

Contract Drawings - "Contract drawings" or "drawings" means and includes (a) all drawings which have been prepared on behalf of the Owner and are included in the contract documents and all modifying drawings issued by addenda thereto; (b) all drawings submitted pursuant to the terms of the contract by the Contractor with his/ her proposal to the Owner during the progress of the work which are accepted by the Owner; and (c) all drawings submitted by the Owner to the Contractor during the progress of the work.

Contractor - "Contractor" means the prime or principal Contractor, including all joint ventures, subcontractors, equipment, or material supplier, and their employees. References to subcontractor or others are only for convenience and all such references shall be considered to refer to the Contractor. The prime or principal Contractor shall be responsible for all subcontractors, and all subcontractors shall require their subcontractors to comply with the relevant provisions of the prime or principal contract.

County or Owner - Shall mean the County of San Joaquin, a political subdivision of the State of California and party of the first part, or its duly authorized agent, acting within the scope of their authority.

Critical Path Method (CPM) - "Critical path method" is a schematic technique.

Day - "Day" or "working day" means calendar day and shall include every day including Saturdays, Sundays, and legal holidays.

Directed - "Directed," "designated," "permitted," "required," "accepted," and works of like import, wherever and in whatever manner used, with or without reference to the Owner, means as directed, designated, permitted, required, and accepted by the Owner.

Field Instruction - Is an instruction given during the course of the work.

Final Completion - "Final completion" is that point in the contract as determined by the Owner through a final inspection that the Contractor has completed all physical work and is ready to prepare for final closeout and acceptance as prescribed herein. All work is complete, accessible, operable, and usable by the Owner; all parts, systems and site work are 100% complete and cleaned for the Owners use. The Owner will issue a certificate of final completion.

General Notes - The written instructions, provisions, conditions, or other requirements appearing on the drawings, and so identified thereon, which pertain to the performance of the work.

Herein - “Herein,” “ hereinafter,” and words of similar import shall refer to the contract documents.

Inspect - "Inspectors" are the agents for the Owner who are responsible for quality control on the project.

Install - "Install," wherever and in whatever manner used, shall mean the installation complete in place of any item or equipment or material.

Liquidated Damages - The amount prescribed in the Contract to be paid to the Owner or to be deducted from any payments due or to become due the Contractor for each day's delay in completing the whole or any specified portion of the work beyond the time allowed in the Contract plus approved time extensions.

Material or Materials - "Materials(s)" shall be construed to include machinery, equipment, manufactured articles, materials, or construction such as form work, fasteners, etc., and any other classes of material to be furnished in connection with the Contract, except where a more limited meaning is indicated by the context.

May - "May," wherever and in whatever manner used, is permissive.

Modification to the Contract - See change orders above.

NOAA - National Oceanic and Atmospheric Administration (U.S. Government).

Notice Inviting Bidders - The public advertisement inviting sealed bids for the work.

Notice to Proceed - The "Notice to Proceed" is the written notification giving the Contractor notice that he shall commence with the prosecution of his work as defined in the Contract Documents. The day following receipt of the Notice to Proceed will constitute the first calendar day of the specified duration to bring the work to Substantial Completion as determined by the Owner (unless specified otherwise).

Owner - County of San Joaquin

Plans - The official drawings including plans, elevations, sections, detail drawings, diagrams, general notes, information and schedules thereon, or exact reproductions thereof, adopted and approved by the Owner showing the location, character, dimension, and details of the work.

Provide - "Provide," wherever and in whatever manner used, shall be understood to mean provide complete in place, that is, furnish and install.

Request for Change - Shall mean any detailed request for a monetary change or equitable adjustment.

Request for Information - The form and procedure established for communication between the Contractor and Owner/ Architect/Engineer to clarify or interpret the contract documents or discover conflicts, omissions, or errors in these document. In addition, the Request for Information may be a precursor to Potential Change Orders and the document to transmit bulletins as prepared by the architect to the Contractor.

Shall or Will - "Shall" or "will," whenever used to stipulate anything is mandatory, means shall or will be done or be performed by either the Contractor or the Owner and means that the Contractor or the Owner has thereby entered into a covenant with the other party to do or perform the same.

Shown - “Shown,” “indicated,” “detailed,” and words of like import, wherever and in whatever manner used, with or without reference to the drawings, means shown, indicated, or detailed on the drawings.

Singular -"Singular" words include the plural and vice versa.

Specifications - "Specifications" means and includes:

a. All specifications which have been prepared on behalf of the Owner and are included in the Contract Documents and all modifications issued by addenda thereto;

b. All specifications or descriptive literature submitted pursuant to the terms of the Contract by the Contractor with his/her proposal of the work which are accepted by the Owner and;

c. All specifications submitted by the Owner to the Contractor during the progress of the work.

Specified - "Specified," "described," or "noted," wherever and in whatever manner used, means as specified, described, shown or noted in the contract documents.

Subcontract - An individual, partnership, corporation, association, joint venture, or any combination thereof, who contracts at any tier with the Contractor (or subcontractor) to perform work or labor or render service in or about the work. The term subcontractors shall not include those who supply materials only.

Submittals - The term "submittals" shall include shop drawings, calculations, samples, schedules, procedures, manufacturers brochures, pamphlets catalog cuts, color charts, or other descriptive data, clearly defining the article, material, equipment, or device proposed for use in the work. The shop drawings are the drawings and diagrams showing details of fabrication and erection which the Contractor is required to submit to the Architect/Engineer through the Owner's authorized representative.

Submitted - "Submitted," wherever and in whatever manner used, means submitted to the Owner for review or acceptance.

Substantial Completion - "Substantial completion" is when the Owner determines the contract work can be used for its intended purpose as prescribed by the closeout procedures contained herein. The Contractor will be so notified when the work is substantially complete and it is the point at which guarantees or warranties begin and liquidated damages are stopped. Substantial completion does not constitute acceptance or final completion of the work. Remaining on omissions and defects must be completed prior to final completion and acceptance.

Sufficient - “Sufficient,” “necessary,” “proper,” "acceptable," "satisfactory,” “desirable,” and words of like import wherever and in whatever manner used, with or without reference to the Owner, means sufficient, necessary, proper, acceptable, satisfactory, and desirable in the judgment of the Owner.

Superintendent - The representative of the Contractor as approved by the Owner who shall be present at the work site at all times during performance of the work. Such Superintendent shall at all times be fully authorized to receive and act upon instructions from

the Architect/Engineer or the Owner's authorized agents and to execute and direct the work on behalf of the Contractor.

Supplier - "Supplier" shall mean an individual, partnership, firm, or corporation, or legally constituted Joint Venture entering into an agreement with the Owner, Contractor or subcontractor for furnishing a portion of the work which requires no labor at the job site, other than common carriers.

Work - The furnishing and installing of all labor materials, articles, supplies, and equipment as specified, designated, or required by the contract.

Clause 2 - Specialist

The term "Specialist" as used in the contract specification shall mean an individual or firm of established reputation (or, if newly organized, whose personnel have previously established a reputation in the same field), which is regularly engaged in, and which maintains a regular work force of workmen skilled in either (as applicable) manufacturing or fabricating items required by the contract, installing items required by the contract, or otherwise performing work required by the contract. Where the contract specification requires installation by a specialist, that term shall also be deemed to mean either the manufacturer of the item, an individual or firm licensed by the manufacturer, or an individual or firm who will perform the work under the manufacturer's direct supervision.

Clause 3 - Authorities and Limitations

The Owner has designated the General Services - Capital Projects as its representative during the work. All work shall be performed under the general direction of the General Services - Capital Projects. The Board of Supervisors alone shall have the power to bind the Owner and to exercise the rights, responsibilities, authorities, and functions vested therein by the contract documents, except that it shall have the right to designate authorized representatives to act for them. Wherever any provision in this contract specifies an individual (such as, but not limited to, Construction Manager, Resident Engineer, Inspector, Custodian or other agent) or organization, whether governmental or private, to perform any act on behalf of or in the interests of the Owner, that individual or organization shall be deemed to be the General Services - Capital Projects' authorized representative under this contract but only to the extent so specified. The Owner may, at any time during the performance of this contract, vest in any such authorized representatives additional power and authority to act for him or designate additional representatives, specifying the extent of their authority to act for him; a copy of each document vesting additional authority in an authorized representative or designating an additional authorized representative shall be furnished to the Contractor.

The Contractor shall perform the contract in accordance with any order (including, but not limited to, instruction, direction, interpretation, or determination) issued by an authorized representative in accordance with his authority to act for the Owner but the Contractor assumes all the risk and consequences of performing the contract in accordance with any order (including but not limited to instruction, direction, interpretation, or determination) of anyone not authorized to issue such order.

Clause 4 - Legal Requirements

a. Contractor shall keep informed of, and comply with, all federal, state and county laws, ordinances, rules, and regulations applicable to the work or to those engaged or employed in the work of this contract, especially (but not limited to) those laws relating to hours of employment, minimum wages, payment of wages, sanitary and safety conditions for workers, worker's compensation insurance, type and kind of materials that can be used, and nondiscrimination in employment. Contractor shall indemnify and save harmless the Owner, its officers, agents and employees from all claims, suits, or actions arising from or based on the violation of any such law, rule, or regulation, whether violation is committed by Contractor, or his/her subcontractors, suppliers, agents, or employees. Certain of those provisions are set forth herein or in the General Construction Contract. The existence of these provisions does not excuse the Contractor from complying with other statutory requirements or provisions which are not set forth in these contract documents.

   If conflict arises between provisions of the plans and specifications and any such laws, rules, or regulations, Contractor shall notify

Owner at once in writing. If, before receiving clarification, Contractor performs any portion of the work affected by such apparent conflict, such performance shall be at Contractor's own risk; and it shall not be entitled to any additional compensation or time by reason of the conflict or its later correction.

Contractor shall be responsible for liability imposed by law on Contractor for damage to any persons or property resulting from defects of obstructions or from any cause whatsoever during progress of the work or at any time before acceptance or thereafter.

b. All work and materials shall be in full accordance with the latest codes, rules, and regulations including, but not limited to, the following:

- Uniform Building, Electrical & Plumbing Ordinances of San Joaquin County
- Uniform Fire Code
- State Fire Marshal
- State Codes and Ordinances
- State Industrial Accident Commission's Safety Orders
- Rules of Local Utilities
- Local City and/or County Ordinances

Nothing in the specifications is to be construed to permit work not conforming to the above, and expense in compliance with the above work shall be borne by the Contractor. Whenever the specifications and working details require higher standards than those required by the ordinances, codes and statutes, the specifications and working details shall take priority over the ordinances, codes and statutes. The Contractor will keep copies of codes on the job site at all times during construction.

c. Royalties and Patents. The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner and Agents harmless from loss on account thereof, except that the Owner shall be responsible for all such loss when a particular process or the product of a particular manufacturer or manufacturers is specified, but if the Contractor has information that the process or articles specified is an infringement of a patent he shall be responsible for such loss unless he promptly gives such information to the Representative.

Clause 5 - Standard References

All documents and publications (such as, but not limited to, manuals, handbooks, codes, standards, and specifications) which are cited in this contract for the purpose of establishing requirements applicable to equipment, materials, or workmanship under this contact, shall be deemed to be incorporated herein as fully as if printed and bound with the specifications of this contract, in accordance with the following:

Wherever reference is made to any such document, the Contractor shall comply with the requirements set out in the edition specified in this contract or, if not specified, the latest edition or revision thereof, as well as the latest amendment or supplement thereto, in effect on the date of the solicitation on this project, except as modified by, as otherwise provided in, or as limited to type, class, or grade, by the specifications of this contract.

Clause 6 - Permits, Licenses & Fees

The Contractor shall, at his expense, obtain all necessary permits and licenses, easements, etc., for the construction of the project, give all necessary notices, pay all fees required by law, and comply with all laws, ordinances, rules, and regulations relating to the work and to the preservation of the public health and safety. The exception to the aforementioned is as specifically noted in the contract documents.

Clause 7 - Separate Contracts

The Owner reserves the right to let other contracts in connection with the work. The Contractor shall afford other Contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate his work with theirs.

To insure the proper execution of his subsequent work, the Contractor shall measure work already in place and shall at once report in writing to the Representative and to the Architect/Engineer any discrepancy between the executed work and the drawings.

B. BONDS & INSURANCE

Clause 8 - Representative & Architect/Engineer

a. The Owner has designated the General Services - Capital Projects as its representative during the work and as inspector of all construction, who may be known as "Resident Inspector," "Inspector," "Project Manager" or "Construction Manager." He shall have the right to be at the job site during construction and shall supervise any additional job inspectors appointed by the Owner.

   The Representative will have the right to observe the installation of all materials and equipment to be incorporated into the work and the placing of such material and equipment to determine in general if the work is proceeding in accordance with the contract documents. On the basis of his observations, he will keep the Owner informed as to the progress of the work. The Representative shall not be responsible for means, methods, techniques, sequences, or procedures of construction nor for safety precautions and programs in connection with the work, nor will he be responsible for the Contractor's failure to carry out the work in accordance with the contract documents.

b. Architect/Engineer: The Owner has retained an Architect/Engineer for this project. The Architect/ Engineer will advise and consult with the Owner, and the Owner will issue instructions to the Contractor as directed. The Architect/Engineer will be requested to interpret the requirements of the contract documents and judge the performance thereunder. As requested by the Owner, the Architect/Engineer will, within reasonable time, render such interpretations as he may deem necessary for the proper execution of the work (see clarifications clause).

   As requested by the Owner, Architect/Engineer will make periodic visits to the job site to familiarize itself generally with the progress and quality of the work and to determine in general whether such work is proceeding in accordance with the contract documents. Based on such observations he may be requested to recommend applications for progress payments made by Contractor.

Clause 9 - Bid Bond (Guarantee)

a. Failure to furnish a bid guarantee, in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

b. The offeror (bidder) shall furnish a bid guarantee in the form of a firm commitment, such as a bid bond, certified check, cashier's check, or irrevocable letter of credit of not less than ten percent (10%) of the amount of the bid payable to the County of San Joaquin. "The amount of the bid" is defined to include all additive alternates and no deductive alternates. The check, bond or letter of credit shall be given as a guarantee that the successful bidder will enter into a written contract within ten (10) days after award and will be considered as the stipulated amount of liquidated damages in the event the bidder is unable to or refuses to execute a contract for the work. The Owner will return bid guarantees, other than bid bonds, to (1) unsuccessful bidders as soon as practicable after the opening of bids and (2) the successful bidder upon execution of contractual documents and bonds (including any necessary coinsurance or reinsurance agreements), as required by the bid as accepted.

c. If the successful bidder, upon acceptance of its bid by the Owner within the period specified for acceptance, fails to execute all contractual documents or provide the performance and/or payment bond(s) as required by the solicitation within the time specified, the Owner may terminate the contract for default.

d. Unless otherwise specified in the bid, the bidder will allow sixty (60) days for acceptance of its bid.

c. In the event the Contractor is terminated for default, the bidder is liable for any cost of bidding the work that exceeds the amount of its bid, and the bid guarantee is available to offset the difference.

Clause 10 - Performance and Payment Bonds

a. The Contractor shall furnish the Owner, within ten (10) days (or as otherwise specified) of the

execution of a contract for the work called for in the specifications and prior to beginning of work, with the following separate surety bonds:

(1.) Faithful Performance Bond. Said bond shall be in an amount equal to one hundred percent (100%) of the contract price, shall be for the faithful performance of the contract, shall be approved by the Owner, and shall be secured from a surety or sureties satisfactory to said Owner.

(2.) Payment Bond for Public Works. The Contractor shall furnish a separate surety bond in an amount at least equal to one hundred percent (100%) of the contract price as security for the payment of all persons for furnishing materials, provisions, provender, or other supplies, or items, used in, upon, for, or about the performance of the work contracted to be done, or for performing any work or labor thereon of any kind, and for the payment of amounts due under the Unemployment Insurance Code with respect to such work or labor in connection with this Contract, and for the payment of a reasonable attorney's fee to be fixed by the court in case suit is brought upon the bond.

Each of said bonds shall be substantially in the form attached to and located at the end of these General Conditions or AIA forms, Document A311.

b. The Contractor shall promptly furnish additional security required to protect the Owner and persons supplying labor or material under this contract if:

(1). Any surety upon any bond furnished with this contract becomes unacceptable to the Owner;

(2). Any surety fails to furnish reports on its financial condition as required by the Owner; or

(3). The contract price is increased so that the penal sum of any bond becomes inadequate in the opinion of the Owner.

Clause 11 - Insurance

The Contractor shall not commence work under this contract until he has obtained all insurance required under this paragraph and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained and approved. Contractor shall furnish the Owner with satisfactory proof of the carriage of insurance required within, and there shall be a specific contractual liability endorsement extending the Contractor's coverage to include the contractual liability assumed by the Contractor pursuant to this Contract and particularly the hold harmless requirements. Any policy of insurance required of the Contractor under this contract shall also contain an endorsement providing that thirty (30) days' notice must be given in writing to the Owner of any pending change in the limits of liability or of any cancellation or modification of the policy. Three (3) copies of insurance certificates evidencing the required coverage shall be furnished Owner. Certificates of insurance must indicate that the coverage cannot be reduced or cancelled until THIRTY (30) days written notice has been furnished Owner.

a. Compensation Insurance and Employer's Liability Insurance. The Contractor shall take out and maintain during the life of this Contract Workmen's Compensation Insurance and Employer's Liability Insurance for all of his employees employed at the site of the project and, in case any work is sublet, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation Insurance and Employer's Liability Insurance for all of the latter's employees unless employees are covered by the protection afforded by the Contractor.

In signing this Contract, the Contractor makes the following certification, required by Section 1861 of the Labor Law:

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workmen's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract."

b. Liability Insurance The Contractor shall take out and maintain during the life of this contract such Bodily Injury Liability and Property Damage Liability Insurance as shall protect him and any subcontractor performing work covered by this contract from claims for damages for bodily

injury, including accidental death as well as from claims for property damage, including third-party property damage, to include coverage on property in the care, custody and control of the Contractor, and also excluding what are commonly knows as the "X, C and U" exclusions (having to do with blasting, collapse, and underground property damage), which may arise from Contractor's operations under this contract, whether such operations be by himself or by a subcontractor or by anyone directly or indirectly employed by either of them and the amounts of such insurance shall be as follows:

Comprehensive Liability Insurance covering personal injury, bodily injury, and property damage liability with a combined single limit in an amount not less than $1,000,000. SUCH INSURANCE SHALL NAME OWNER, ITS OFFICERS, AGENTS, AND EMPLOYEES AS ADDITIONAL INSURED. CONTRACTOR'S LIABILITY INSURANCE POLICY SHALL BE ENDORSED AS PRIMARY INSURANCE.

c. Fire Insurance. The Contractor will at his expense maintain Builder's Risk Fire Insurance, including Extended Coverage and Vandalism and Malicious Mischief endorsements, jointly in the names of the Owner and Contractor, payable as their respective Interest may appear, such insurance at all times to be of sufficient amount to cover fully all loss or damage to the work under this agreement, resulting from fire and the perils covered by Extended Coverage and Vandalism and Malicious Mischief endorsements not less than 100% of contract price.

d. Indemnification. Contractor will indemnify and defend Owner and its agents such as construction manager or architect from all claims, demands, or liability arising out of or encountered in connection with this contract or the prosecution of work under it, whether such claims, demands, or liability are caused by Contractor, Contractor's agents or employees, or subcontractors employed on the project, their agents or employees, or products installed on the project by Contractor or subcontractors, excepting only such injury or harm as may be caused solely and exclusively by Owner's fault or active negligence. Such indemnification shall extend to claims, demands, or liability for injuries occurring after completion of the project as well as during the work's progress.

e. Hold Harmless. The Contractor will save, keep, and bear harmless the Owner and all officers, employees, and agents such as construction manager and architect thereof from all damages, costs, or expenses, in law or in equity, that may at any time arise or be set up because of personal injury or damage to property sustained by any person or persons by reason of, or in the course of the performance of said work, or by reason of any infringement or alleged infringement of the patent rights of any person or persons, firm or corporation in consequence of the use in, on or about said work, of any article or material supplied or installed under this contract. Notwithstanding the above the Contractor shall wherever it is necessary keep and maintain at his sole cost and expense during the course of his operations under this contract such warnings, signs, and barriers as may be required to protect the public. The provisions of the preceding sentence shall not impose any liability upon the Owner and are for the express benefit of the general public.

f. The Contractor shall insert the substance of this clause, number 11 including this paragraph f, in subcontracts under this contract that require work on a Owner installation and shall require subcontractors to provide and maintain the insurance required in this clause or elsewhere in the contract. At least five (5) days before entry of each subcontractor's personnel on the Owner installation, the Contractor shall furnish (or ensure that there has been furnished) to the Owner a current certificate of insurance, meeting the requirements of paragraph b. above, for each such subcontractor.

C. SITE CONDITIONS

Clause 12 - Differing Site Conditions

a. The Contractor shall promptly (no more than one day), and before the conditions are disturbed, give a written notice to the Owner as to (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or (2) unknown physical conditions at the site of an unusual nature, which differ materially from those normally encountered and generally recognized

as inherent in the work of the character provided for in the contract.

b. The Owner shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, a change order shall be made under this clause and the contract modified in writing in accordance with the changes clause and the contract modified in writing accordingly.

c. No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed unless the Contractor has given the written notice required.

d. No request by the Contractor for a change to the contract for differing site conditions shall be allowed if made after final payment under this contract.

Clause 13 - Site Investigation and Conditions Affecting the Work

a. The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to: (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads; (3) uncertainties of weather, water table, river stages, tides, or similar physical conditions at the site; (4) the conformation and condition of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertained from an inspection of the site, including all exploratory work done by the Owner, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Owner.

b. The Owner assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Owner. Nor does the Owner assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in these contract documents.

Clause 14 - Dimensions and Measurements

All dimensions shown of existing work and all dimensions required for work that is to connect with work now in place, shall be verified and calculated by the Contractor by actual measurement of the existing work. Any discrepancies between the contract requirements and the existing conditions shall be referred to the authorized representative of the Owner before any work affected thereby has been performed. Failure to notify the Owner before starting work will be considered acceptance by the Contractor. Where doubts as to dimensions exist, Owner shall determine the correct dimensions.

Clause 15 - Notice of Conflicting Conditions

Where the Contractor's work is associated with that of another Owner Contractor, the Contractor shall examine the preceding or adjacent work and report in writing to the Owner's authorized representative any visible defect or condition preventing the proper execution of his contract. If he proceeds without giving notice, the Contractor shall be held to have accepted the work or material, and the existing conditions, and shall be responsible for any defects in his own work consequent thereon, and shall be relieved of any obligation or any guarantee because of any such condition or imperfection. This provision shall be included in any and all other contracts or subcontracts for work to be performed where such a conflict could exist.

D. SPECIFICATIONS AND DRAWINGS

Clause 16 - Specifications and Drawings, General

a. Subdivision: For convenience, these specifications are arranged into several sections, but such separation shall not be considered as the limits of the work required of any separate trade. The terms and conditions of such limitations are wholly between the Contractor and his subcontractors.

b. As-Built Drawings: The Contractor shall keep on the work site a current copy of the drawings and specifications and shall at all times give the Owner access thereto.

The Contractor will be given one extra set of drawings and specifications which shall be kept at the site of the work at all times and updated weekly. Payment may be withheld if drawings are not kept current. Exact locations of all pipes and conduits and all changes in construction and details shall be indicated and dimensions provided upon these drawings, and all changes in materials and equipment installed shall be indicated in these specifications. Upon completion of the work, the "as-built" drawings and specifications shall be returned to the Owner prior to the final payment.

In general, the working details will indicate dimensions, position, and kind of construction, and the specifications, qualities, and methods. Any work indicated on the working details and not mentioned in the specifications, or vice versa, shall be furnished as though fully set forth in both. Work not particularly detailed, marked, or specified shall be the same as similar parts that are detailed, marked, or specified.

In case of discrepancy in the documents, the matter shall be promptly submitted to the Owner's authorized representative, who shall make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Owner shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

c. Similar Drawings: Where the word "similar" occurs on the drawings, it shall have a general meaning and not be interpreted as being identical, and all details shall be worked out in relation to their location and their connection with other parts of the work.

d. Standard Details: Standard Details or specification drawings are applicable when listed, bound with specifications, noted on the drawings or referenced elsewhere in the specifications. Where the notes on the drawings indicate modifications, such modifications shall govern.

Clause 17 - Summary of the Order of Precedence

In case of conflicts between the contract documents the order of precedence shall be as follows:

a. Modifications or changes last in time are first in precedence.

b. Addenda.

c. Owner-Contractor agreement.

d. General Conditions except for specific modifications thereto stated in the Supplementary Conditions or Division One Specification.

e. Supplementary Conditions.

f. Specifications.

g. Note: Should there be conflict among the General Conditions, Supplementary Conditions and Division One specification the more restrictive will apply.

h. Drawings; as between figures given on drawings and the scaled measurements, the figures shall govern; as between large-scale drawings and small-scale drawings, the larger scale shall govern. Structural drawings will take precedence over architectural drawings.

i. As between detailed drawings and standard plates bound within the specifications, the detailed drawings govern.

j. In the event where provisions of codes, safety orders, contract documents, referenced manufacturer's specifications or industry

standards are in conflict, the more restrictive and higher quality shall govern.

k. Schedules on the drawings take precedence over conflicting information given on other drawings.

1 Architectural/structural drawings.

m. Mechanical/electrical drawings.

Clause 18 – Clarifications, Request for Information and Additional Instructions

a. Notification by Contractor: Should Contractor discover conflicts, omissions, or errors in the contract documents or have any question concerning interpretation or clarification of the contract documents, or if it appears to Contractor that the work to be done or any matters relative thereto are not sufficiently detailed or explained in the contract documents, then, before proceeding with work affected, Contractor shall immediately notify Owner's authorized representative in writing, and request interpretation, clarification, or additional detailed information concerning the work. Owner, whose decision shall be final and conclusive, shall resolve such questions and issue instructions to Contractor within a reasonable amount of time but in no less than 14 calendar days. Should Contractor proceed with work affected before receipt of instructions from Owner, Contractor shall remove and replace or adjust work which is not in accordance therewith and it shall be responsible for resultant damage, defect or added cost. In event of failure to agree as to scope of contract requirements, Contractor shall follow procedure set forth in the disputes clause. The Contractor shall ask for any clarification or request for information (clarification) immediately upon discovery based on the latest updated version of the Official Contract Schedule. The Contractor shall submit all requests for clarification and/or additional information to the Owner's authorized representative.

b. Additional Detailed Instructions: The Owner may furnish additional detailed written instructions to further explain the work, and such instructions shall be a part of the contract requirements. Should additional detailed instructions, in the opinion of Contractor, constitute work in excess of scope of the contract, it must submit written notice thereof immediately to the county but not more than seven (7) calendar days following receipt of such instruction, and in any event prior to commencement of work thereon. Owner will then consider such notice and, if in its judgment it is justified, the Owner's instructions will be revised or the extra work authorized. Contractor shall have no claim for additional compensation because of such additional instructions unless Contractor gives the Owner written notice thereof within the seven days specified above. For procedure concerning protests in case of dispute as to contract requirements, attention is directed to the disputes clause.

E. SHOP DRAWINGS AND SUBMITTALS

Clause 19 – Shop Drawings, Product Data, Coordination Drawings and Schedules

a. Shop drawings means drawings, submitted to the Owner by the Contractor, subcontractor, or any lower tier subcontractor manufacturer, supplier or distributor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements and (2) the installation (i.e., form, fit**,** and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, fabrication, erection and setting drawings, manufacturers' scale drawings, wiring and control diagrams, cuts or entire catalogs, pamphlets, and performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract. The Owner may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

b. If this contract requires shop drawings, the Contractor shall coordinate all such drawings and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop

drawings submitted to the Owner without evidence of the Contractor's approval may be returned for rescissions. The Architect/Engineer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the reasons therefor. Any work done before such approval shall be at the Contractors risk. Approval or disapproval by the Architect/Engineer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with paragraph c. below.

c. If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Architect/Engineer approves any such variation, no change in time or price will be allowed for Contractor changes. Should the Architect/Engineer make changes on the shop drawings, affecting time and/or cost, the Contractor will immediately notify the Owner with a request for information. If the Owner approves the change, it shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

d. Clause 19 shall be included in all subcontracts at any tier.

e. The Contractor shall submit shop drawings, coordination drawings, and schedules for approval as required by the specifications or requested by the Owner as follows. The Contractor will provide a submittal schedule listing all shop drawings and submittals, the submission dates by the Contractor and return dates from the architect, this schedule will be provided two weeks after Notice to Proceed.

f. Shop drawings and schedules, other than catalogs, pamphlets, and similar printed material, shall be submitted with one reproducible plus six copies. The reproducible will be returned to the Contractor who shall submit as many additional copies as the Contractor may desire or need for his use or use by subcontractors.

g. Before submitting shop drawings on the mechanical and electrical work, the Contractor shall submit and obtain the Owner's approval of such lists of mechanical and electrical equipment and materials as may be required by the specifications, and shall submit a submittal schedule.

h. Each shop drawing or coordination drawing shall have a blank area 5 by 5 inches located adjacent to the title block. The title block shall display the following:

- Number and title of drawing
- Date of drawing or revision
- Name of project building or facility
- Name of Contractor and (if appropriate) name of subcontractor submitting drawings
- Clear identity of contents and location on the work
- Project title and contract number
- Submittal number

i. Unless otherwise provided in this contract, or otherwise directed by Owner, shop drawings, coordination drawings, and schedules shall be submitted to the Architect/Engineer with a letter in triplicate, sufficiently in advance of construction requirements to permit no less than fifteen (15) working days for checking and appropriate action. More complex submittals will take in excess of 15 working days for architect action.

j. Approval of drawings and schedules will be general and shall not be construed as permitting any departure from the contract requirements, or as approving departures from full-size details furnished by the Owner.

Clause 20 - Samples

a. After the award of the contract, the Contractor shall furnish for the approval of the Owner samples required by the specifications or by the Owner. Samples are physical examples which illustrate materials, equipment or workmanship

and establish standards by which the work will be judged. Samples shall be delivered to the Owner or to the Architect/Engineer as specified or as directed. The Contractor shall prepay all shipping charges on samples. Materials or equipment for which samples are required shall not be used in the work until approved in writing by the Owner.

b. Each sample shall have a label indicating:

(1.) Name of project building or facility, project title, and contract number.

(2.) Name of Contractor and, if appropriate, name of subcontractor.

(3.) Identification of material or equipment with specification requirement.

(4.) Place of origin.

(5.) Name of producer and brand (if any),

Samples of finished materials shall have additional markings that will identify them under the finish schedules.

c. The Contractor shall mail under separate cover a letter in triplicate submitting each shipment of samples and containing the information required in paragraph b. above. He shall enclose a copy of this letter with the shipment and send a copy to the Owner representative on the project. Approval of a sample shall be only for the characteristics or use named in such approval and shall not be construed to change or modify any contract requirement. Substitutions will not be permitted unless they are approved in writing by the Owner.

d. Approved samples not destroyed in testing will be sent to the Owner representative. Approved samples of hardware in good condition will be marked for identification and may be used in the work. Materials and equipment incorporated in the work shall match the approved samples. Other samples not destroyed in testing or not approved will be returned to the Contractor at his expense if so requested at time of submission.

e. Failure of any material to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make of that material or equipment which previously has proven unsatisfactory in service.

f. Samples of various materials or equipment delivered on the site or in place may be taken by the Owner representative for testing. Samples failing to meet contract requirements will automatically void previous approvals of the items tested. The Contractor shall replace such materials or equipment found not to have met contract requirements, or there shall be a proper adjustment of the contract price as determined by the Owner.

g. Unless otherwise specified, when tests at required only one test of each sample proposed for use will be made at the expense of the Owner. Samples, which do not meet specification requirements will be rejected. Testing of additional samples will be made by the Owner at the expense of the Contractor.

Clause 21 - Substitutions

a. For convenience in designation on the plans or in the specifications, certain materials, articles, or equipment may be designated by a brand or trade names or the names of the manufacturers together with catalog designations or other identifying information, hereinafter referred to generically as "designated by brand names." An alternative material, article, or equipment which is of equal or superior quality and of the required characteristics for the purpose intended may be proposed for use provided the Contractor complies with the following requirements:

b. The Contractor shall submit all his proposals for a substitution in writing within forty-five (45) days after Notice to Proceed. No substitution will be considered after the 45-day period except as allowed by the Owner.

c. No such proposal will be considered unless accompanied by complete information and descriptive data necessary to determine the

equality of the offered materials, articles, or equipment. Samples shall be provided when requested by the Owner.

d. The Contractor shall note that the burden of proof as to the comparative quality or suitability of the offered materials, articles, or equipment shall be upon the Contractor. The Owner or its agents shall be the sole judge as to such matters. In the event that the Owner rejects the use of such alternative materials, articles, or equipment, then one of the particular products designated by brand name shall be furnished.

e. The Owner will examine, with reasonable promptness, such submittals, and return of submittals to the Contractor shall not relieve the Contractor from responsibility for deviations and alternatives from the contract plans and specifications, nor shall it relieve him from responsibility for errors in the submittals. A failure by the Contractor to identify, in his letter of transmittal, material deviations from the plans and specifications shall void the submittal and any action taken thereon by the Owner. When specifically requested by the Owner, the Contractor shall resubmit such shop drawings, descriptive data, and samples as may be required.

f. If any mechanical, electrical, structural, or other changes are required for the proper installation and fit of alternative materials, articles, or equipment, or because of deviations from the contract plans and specifications, such changes shall not be made without the consent of the Owner and shall be made without additional cost to the Owner.

g. Contractor will be liable for cost of the architect and/or engineer to provide technical review and approval of any substitutions.

h. The Contractor is directed to Public Contract Code Section 3400 for substitution requirements for items that list only one brand or trade name. The contractor shall have five (5) days after the bid date to provide documentation for review of these proposed substitutions. No award shall be made during this period.

F. SCHEDULES

Clause 22 - Construction Schedule

a. The Contractor shall, within fourteen (14) calendar days after the Notice to Proceed or another period of time determined by the Owner, prepare and submit to the Owner for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials and equipment). The schedule shall be in the form of a progress chart or CPM (critical path method) schedule (as selected and approved by the Owner) of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during die period (CPM activities will not exceed 14 days). If the Contractor fails to submit a schedule within the time prescribed, the Owner may withhold approval of progress payments until the Contractor submits the required schedule.

b. The Contractor shall enter the actual progress on the chart/schedule at least monthly with the payment request or as directed by the Owner, and upon doing so shall immediately deliver three copies of the annotated schedule to the Owner's authorized representative. If, in the opinion of the Owner, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Owner, without additional cost to the Owner. In this circumstance, the Owner may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in CPM or chart form as the Owner deems necessary to demonstrate how the approved rate of progress will be regained.

c. Failure of the Contractor to comply with the requirements of the Owner under this clause shall be grounds for a determination by the Owner that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the

contract. Upon making this determination, the Owner may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the termination clause of this contract.

G. TIME AND LIQUIDATED DAMAGES

Clause 23 - Time of Work, Liquidated Damages, and Extensions

a. Time of Work

The Contractor shall commence work on this project the day following receipt of the written Notice to Proceed. Upon receipt of such notice the Contractor shall begin work and shall prosecute the work diligently to completion within the number of calendar days specified in the contract. No work shall be commenced before the contract is fully executed.

b. Liquidated Damages

If the work is not completed within the time required, damage will be sustained by the Owner. It is and will be impracticable and extremely difficult to ascertain and determine actual damage which Owner will sustain by reason of such delay; and it is therefore agreed that Contractor will pay to Owner the sum of money stipulated per day in the Contract for each and every day's delay in finishing the work beyond the time prescribed. If the Contractor fails to pay such liquidated damage, the Owner may deduct the amount thereof from any money due or that may become due the Contractor under the contract.

c. Unavoidable Delays

(1.) Time Extension

(a.) The Contractor will be granted an extension of time for completion of the work beyond that named in the Contract Documents, for delays which may result through causes beyond the control of the Contractor and which he could not have avoided by the exercise of care, prudence, foresight and diligence.

(b.) Contractor shall be allowed extensions of time in which to complete the work equal to the sum of all unavoidable delays, plus any adjustments of contract time due to contract change orders. During such extension of time liquidated damages shall not be charged to the Contractor.

(c.) Unavoidable delays within the meaning of this section shall be those caused by acts or neglect of the Owner, its employees, or those under it by contract or otherwise; by Acts of God (including weather) or of the public enemy, fire, epidemics, or strikes. Material shortages and delays in utility company connections may be classified as an unavoidable delay if the Contractor can produce satisfactory evidence that he acted in a timely manner. There will be no damages for delays caused by Acts of God, public enemy, fire, epidemics, strikes, material shortages, and utility companies. There will be no damage for delays as described under this paragraph (c).

(d.) Delays in the prosecution of parts of the work which may in themselves be unavoidable, but do not necessarily prevent or delay the prosecution of other parts of the work nor the completion of the work within the time specified, which do not necessarily prevent the completion of the whole work within the time herein specified, will not be considered as unavoidable delays within the meaning of the contract.

(2.) Weather

The Contractor will not be allowed a day for day weather delay when the contract is bid to be constructed during a period that will normally include inclement weather. The Contractor will only be allowed a time extension for unusually severe weather if it results in precipitation or other conditions which in the amount frequency, or duration is in excess of the norm at the location and time of the year in question as established by NOAA weather data. A day for day extension

will only be allowed for those days in excess of the norm.

The Contractor is expected to work seven (7) days per week (if necessary, irrespective of inclement weather), to maintain access, and weather protect the work under construction. During wet periods, the Contractor shall provide site/soil stabilization to allow access for his construction equipment. Stabilization of the site shall be achieved by lime stabilization, placement of aggregate base and fabric on roadways and work/staging areas or other suitable means as approved by the Owner. The Contractor shall seal all excavated areas each night to promote drainage and to decrease saturation.

If the weather is unusually severe (or conditions resulting therefrom) in excess of the NOAA data norm and prevents the Contractor from beginning at the usual starting time, or prevents the Contractor from proceeding with seventy- five percent (75%) of the normal labor and equipment force towards completion of the day's current controlling item on the accepted schedule for a period of at least five hours, and the crew is dismissed as a result thereof, the Owner will designate such time as unavoidable delay and grant one (1) calendar-day extension.

(3.) Notice

Whenever the Contractor foresees any delay in the prosecution of the controlling (critical path) work activity, and in any event immediately upon the occurrence of any delay which he regards as an unavoidable delay, the Contractor shall notify the Owner in writing of such delay and its cause, in order that the Owner may take immediate steps to prevent, if possible, the occurrence or continuance of the delay, and may determine whether the delay is to be considered avoidable or unavoidable, how long it continues, and to what extent the prosecution and completion of the work are to be delayed thereby.

After the completion of any part or the whole of the work, the Owner, in calculating the amount due the Contractor, will assume that any and all delays which have occurred have been avoidable delays, except such delays as shall have been called to the attention of the Owner at the time of their occurrence and found by the Owner to have been unavoidable as substantiated by a change order. The Contractor will make no claims that any delay not called to the attention of the Owner at the time of its occurrence has been an unavoidable delay.

d. Request for Time Extension

In the event the Contractor requests an extension of contract time for unavoidable delay (or for changes see Change Order Process Clause), such justification shall be submitted no later than seven days after the initial occurrence of any such delay. When requesting time for change orders they must be submitted with the change with full justification. If the Contractor fails to submit justification with the change they will waive their right to a time extension at a later date. Such justification must be based on the official contract schedule as updated at the time of occurrence of delay or execution of work related to any changes to the scope of work. The justification must include, but is not limited to, the following information:

(1.) The duration to perform the activity relating to the changes in the work and the resources (manpower, equipment, material, etc.) required to perform these activities within the stated duration.

(2.) Logical ties to the official contract schedule for the proposed changes and/or delay showing the activity/activities in the schedule whose start or completion dates are affected by the change and/or delay.

The Owner, after receipt of such justification and supporting evidence, shall make its finding of fact. The Owner's decision shall be final and conclusive and the Owner will advise the Contractor in writing of such decision. If the Owner finds that the Contractor is entitled to any extension of contract time, the Owner's determination as to the total number of days of extension shall be based upon the latest updated version of the official contract schedule. Such

data will be included in the next monthly updating of the schedule.

H. PERFORMANCE

Clause 24 - Supervision & Construction Procedures

The Contractor shall supervise and direct the work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures, and shall coordinate all portions of the work under the contract, including the relations of the various trades to the progress of the work, in accordance with the provisions of the contract documents.

The Contractor shall be responsible to the Owner for the acts and omissions of the Contractor's employees, subcontractors, and their agents and employees, and any other persons performing any of the work under a contract with the Contractor.

The Contractor is an independent agent and nothing in the Contract Documents shall be interpreted to make the Contractor an agent of the Owner.

Clause 25 - Supervision

a. Within seven (7) days after Notice to Proceed, the Contractor shall provide to the Owner his/her organization chart outlining key job personnel. The Contractor will also provide a Letter of Authority for those personnel who are authorized to sign contract documents on his/her behalf, i.e., payment requests, change orders, inspection reports, etc.

b. The Contractor shall employ, during the progress of the work, a competent Project Manager and Superintendent as approved by the Owner, and any necessary assistants. The Superintendent shall not be changed except with the consent of the Representative, unless the Superintendent proves to be unsatisfactory to the Contractor or ceases to be in his employ. The Representative shall be notified immediately of any new Superintendent appointed to the work and the Contractor shall submit qualifications for approval. The Superintendent shall represent the Contractor and all directions given to him shall be as binding as if given to the Contractor. Important directions shall be confirmed in writing by the Contractor. Other directions shall be so confirmed on written request in each case.

   The Contractor shall give efficient supervision to the work, using his best skill and attention. He shall carefully study and compare all drawings, specifications, and other instructions and shall at once report to the Representative any error, inconsistency, or omission which he may discover but he shall not be held responsible for their existence or discovery.

c. The Superintendent shall be present at the site of the work at all times, both while work is actually in progress on the Contract and during periods when work is suspended. The Superintendent shall not be employed on any other project during the course of this work unless approved by the Owner.

d. The Owner shall be supplied at all times with the names and telephone numbers of at least two (2) persons in charge of or responsible for the work, who can be reached for emergency work twenty-four (24) hours a day, seven (7) days a week.

e. The Superintendent will be provided a copy of all contract documents by the Contractor.

f. The Superintendent (and others as requested) shall attend all meetings called by the Owner.

Clause 26 - Conduct of Work

a. The Owner reserves the right to do other work in connection with the project by contract or otherwise, and the Contractor shall at all times conduct his work so as to impose no hardship on the Owner or others engaged in the work. He shall adjust correct, and coordinate his work with the work of others so that no discrepancies shall result in the whole work.

b. In engaging one kind of work with another, marring, or damaging same will not be

permitted and, in the event such occurs, shall be corrected by the Contractor at his cost prior to acceptance by the Owner. Should improper work of any trade be covered by another which results in damage or defects, the whole work affected shall be made good by the Contractor without expense to Owner.

Clause 27 - Protection of Work & Property

a. The Contractor shall continuously maintain adequate protection of all his work from damage and shall protect the Owner's property from injury, or loss arising in connection with this contract. He shall make good any such damage, injury, or loss, except such as may be directly due to errors in the contract documents or caused by agents or employees of the Owner. He shall adequately protect adjacent property as provided by law and the contract documents.

b. The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with tree-pruning compound as directed by the Owner.

c. The Contractor shall protect from damage all existing improvements and utilities (1) at or near the work site and (2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Owner may have the necessary work performed and charge the cost to the Contractor.

Clause 28 - Overloading:

a. If the Contractor shall cause, permit, or allow any part of the building or buildings to be overloaded by storing, piling, or setting thereon any material or equipment, or by performing thereon any of his work, he shall do so at his sole risk, and he shall be solely responsible for any and all loss, damage, and/or injury arising or resulting therefrom.

b. All materials brought onto the site shall be stacked up in an orderly manner in a designated area not in conflict with the area where work is being performed.

c. Contractor shall provide and maintain all scaffolding for use of subcontractors unless otherwise specified.

Clause 29 - Contractor's Responsibility For Work

Until formal acceptance of the work by the Owner, Contractor shall have the charge and care thereof and shall bear risk of injury of damage to any part of the work by action of the elements, or from any other cause except for such damages as are directly and proximately occasioned by acts of the Federal or State Government and the public enemy.

Contractor, at its cost, shall rebuild, repair, restore and make good all such damages to any portion of the work occasioned by such causes before its acceptance.

No advertising of any description will be permitted in or about the work, except by order of the Owner.

Contractor shall not create or permit the continued existence of any nuisance in or about the work.

Clause 30 - Utilities

a. Furnish Utilities. Unless otherwise provided for under separate sections hereinafter described, Contractor will arrange for and provide continuously until acceptance of the work, all water, gas, and electricity required. Contractor shall pay for such services unless specifically otherwise noted.

b. Interruption of Utilities. Utilities shall not be interrupted except with the approval of the Owner. Forty-eight (48) hour written notice is required prior to all interruptions. Interruptions shall be scheduled so as to minimize duration and disruption to existing operation.

c. Public Utilities

(1.) The Contractor shall send proper notices, make all necessary arrangements, and perform all other services required in the care and maintenance of all public utilities. The Contractor shall assume all responsibility concerning same for which the Owner may be liable.

(2.) To the satisfaction of the Owner, enclosing or boxing in, for protection of any public utility equipment, shall be done by the Contractor. Upon completion of the work, the Contractor shall remove all enclosures, fill in all openings in masonry, grouting the same watertight, and leave in a finished condition.

(3.) All connections to public utilities shall be made and maintained in such manner as not to interfere with the continuing use of same by the Owner during the entire progress of the work.

Clause 31 - Working Hours

It is contemplated that all work will be performed on a calendar day basis during the customary working hours of the trades involved unless otherwise specified in this contract. Work performed by the Contractor of his own volition outside such customary working hours shall be at no additional expense to the Owner and with Owner approval.

Clause 32 - Material & Workmanship

a. Materials& Equipment:

(1.) Materials, equipment, and articles incorporated into the work shall be new and of quality equal or superior to that specified. When not particularly specified, materials shall be the best of their class or kind. The Contractor shall, if required, submit satisfactory evidence as to the kind and quality of material.

(2.) See substitution clause concerning "or equal" requirements and procedure for submitting alternative material, articles, or equipment.

(3.) All materials shall be delivered so as to insure a speedy and uninterrupted progress of the work. Same shall be stored so as to cause no obstruction and so as to prevent overloading of any portion of the structure on work site, and the Contractor shall be entirely responsible for damage or loss by weather, theft, vandalism or other cause.

(4.) Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials shall be reasonably accessible for inspection. When considered necessary by the Owner, stored materials shall be placed on wooden plat-forms or on other hard, clean surfaces and not directly on the ground, and shall be placed under cover when so directed.

(5.) No materials manufactured or produced in a penal or correctional institution shall be incorporated in the project under this contract, except as permitted by California law.

Clause 33 - Layout of Work

The Contractor shall lay out its work from Owner-established base lines and bench marks indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, material, and labor required to layout any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Owner. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Owner until authorized to remove them. If such marks are destroyed by the Contractor or through its negligence before their removal is authorized, the Owner may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor.

Clause 34 - Use of Premises

a. If the premises are occupied, the Contractor, his subcontractors, and their employees shall comply with the regulations governing access to, operation of, and conduct while in or on the premises and shall perform the work required under this contract in such a manner as not to unreasonably interrupt or interfere with the conduct of Owner business.

b. Any request received by the Contractor from occupants of existing buildings to change the sequence of work shall be referred to the Owner or authorized representative for determination.

c. If the premises are occupied, the Contractor, his subcontractors and their employees shall not have access to or be admitted into any building outside the scope of this contract except with official permission of authorized representative.

Clause 35 - Operations & Storage

a. The Contractor shall confine all operations (including storage of materials) on Owner premises to areas authorized or approved by the Owner. The Contractor shall hold and save the Owner, and its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.

b. Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Owner and shall be built with labor and materials furnished by the Contractor without expense to the Owner. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Owner, the buildings and utilities may be abandoned and need not be removed.

c. The Contractor shall, under regulations prescribed by the Owner, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Owner. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or Owner regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

Clause 36 - Heat

Unless otherwise specified or unless already provided by the Owner, the Contractor shall:

a. Provide heat, as necessary to protect all work, materials, and equipment against injury from dampness and cold;

b. Protect, cover and/or heat as may be necessary, to produce and maintain a temperature of not less than 50 degrees Fahrenheit (1) for the concrete during the placing, setting, and curing, and (2) for the plaster during the application, setting, and curing of plaster; and

c. Provide heat as necessary in the area where work is to be done to provide the minimum temperature recommended by the supplier or manufacturer of the material, but in no case less than 50 degrees Fahrenheit, for a period beginning 10 days before placing of interior finishes and finish materials and continuing until substantial completion or beneficial occupancy of the area, whichever is earlier.

Clause 37 - Cleaning Up

The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. Before completing the work, the Contractor shall remove from the work and premises any weeds rubbish, tools, scaffolding, equipment, and materials that are not the property of the Owner. Upon completing the work, the Contractor shall leave the work area in a clean, neat, and orderly condition satisfactory to the Owner.

I. SAFETY & HEALTH

Clause 38 - Accident Prevention

a. In performing this contract, the Contractor shall provide for protecting the lives and health of employees and other persons; preventing damage to property, materials, supplies, and equipment; and avoiding work interruptions. For these purposes, the Contractor shall:

(1.) Provide a copy of its safety program;

(2.) Provide appropriate safety barricades, signs, and signal lights;

(3.) Comply with standards issued by the U.S. Government, State, County and City; and

(4.) Ensure that any additional measures be reasonably necessary for this purpose are taken.

b. The Contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment. The Contractor shall report this data in the manner prescribed by the Owner.

c. Where conditions of the work present unreasonable risk of injury or death to persons, or property damage, in the judgement of the Owner it may direct Contractor at the Contractor's so expense, to take corrective action.

d. Before beginning excavation for a trench 5 feet or more in depth, Contractor shall submit to and shall receive acceptance from the Architect/Engineer through the authorized representative for detailed plans showing design of shoring, bracing, sloping, or other provisions to be made for worker protection from hazard of caving ground. Such plans shall be submitted at least 14 days before Contractor intends to begin trench work. If such plans vary from shoring system standards established by the State of California Construction Safety Orders, the plans shall be prepared by a registered civil or structural engineer.

Nothing herein shall be deemed to allow use of shoring, sloping, or protective systems less effective than those required by the Construction Safety Orders of the California Division of Industrial Safety.

Clause 39 – Sanitary Facilities:

Contractor shall supply and maintain at its expense such toilets and other sanitary facilities as are necessary for use by workers employed at the job site. Such facilities shall be approved by the Owner.

Clause 40 - Responsibility for Compliance With (OSHA):

All work, materials, work safety procedures and equipment shall be in full accordance with the latest OSHA rules and regulations.

Contractor warrants that he and each of his subcontractors shall, in performance of this contract, comply with each and every compliance order issued pursuant to OSHA. The Contractor assumes full and total responsibility for compliance with OSHA standards by his subcontractors as well as himself. The cost of complying with any compliance order and/or payment of any penalty assessed pursuant to OSHA shall be borne by the Contractor. Contractor shall save, keep, and hold harmless the Owner, and all officers, employees, and agents thereof, from all liabilities, costs, or expenses, in law or in equity, that may at any time arise or be set up because of Contractor's or a subcontractor's noncompliance or alleged noncompliance with OSHA requirements. Nothing contained therein shall be deemed to prevent the Contractor and his subcontractors from otherwise allocating between themselves responsibility for compliance with OSHA requirements; provided, however, that the Contractor shall not thereby be, in any manner whatsoever, relieved of his responsibility to the Owner as hereinabove set forth.

Clause 41 - Toxic and Hazardous Materials and Waste

a. Asbestos. Operations which may cause release of asbestos fibers into the atmosphere shall meet the requirements of CCR Title 8, General Industrial Safety Orders, Section 5208. Some operations which may cause such concentrations include sanding, grinding, abrasive blasting, sawing, drilling, shoveling, or otherwise handling materials containing asbestos so that dust will be raised.

   Such materials can include resilient flooring, existing gypsum wallboard, asbestos-cement board, spray-on fiber-proofing for steel, cement plaster, asbestos pipe insulation and acoustical sprays, tiles, and boards.

   In accordance with paragraph e., below, asbestos in building materials is prohibited. This section only applies to existing materials on the site that may be discovered during construction.

b. Toxic Materials. Operations which release toxic materials into the atmosphere shall meet the requirements of CCR Title 8, General Industrial Safety Orders. Some operations which may release such materials include use of adhesives, sealants, paint, and other coatings.

c. Lead-Based Paint. Lead-based paint is prohibited. Lead-based paint is defined as:

   (1.) Any paint containing more than five-tenths of one percent lead by weight (calculated as lead metal in the total non-volatile content of the paint) or the equivalent measure of lead in the dried film of paint applied or both; or
   (2.) For paint manufactured after June 22, 1977, any paint containing more than six one-hundredths of one percent lead by weight (calculated as lead metal) in the total content of the paint or the equivalent measure of lead in the dried film or paint already applied.

d. Hauling and Disposal. Meet requirements of CAC Title 22, Division 4, Chapter 30, "Minimum Standards for Management of Hazardous and Extremely Hazardous Wastes.

e. Asbestos Prohibited. No products or materials containing asbestos shall be incorporated into the work without the prior written approval of the Owner.

J. COUNTY FURNISHED PROPERTY

Clause 42 - Owner-Furnished Property

a. The Owner will furnish to the Contractor the property identified in the specification to be incorporated or installed into the work or used in performing the contract. The listed property will be furnished f.o.b. railroad cars at the place specified in the contract or f.o.b. truck at the project site. The Contractor is required to accept delivery, pay any demurrage or detention charges, and unload and transport the property to the job site at its own expense. When the property is delivered, the Contractor shall verify its quantity and condition and acknowledge receipt in writing to the Owner. The Contractor shall also report in writing to the Owner within twenty-four (24) hours of delivery any damage to or shortage of the property as received. All such property shall be installed or incorporated into the work at the expense of the Contractor, unless otherwise indicated in this contract.

b. Each item of property to be furnished under this clause shall be identified by the Contractor in a schedule by quantity, item, and description.

c. The Contractor shall be held responsible for all material delivered to him and deductions will be made from any moneys due him to make good any shortages and deficiencies, from any clause whatsoever, which may occur after such delivery.

d. The Contractor shall set up accounting records and establish an inspection procedure as approved by the Owner.

K. BENEFICIAL OCCUPANCY

Clause 43 - Beneficial Occupancy

a. Use and Possession

   (1.) The Owner shall have the right to take possession of or use any completed or partially

completed part of the work. Before taking possession of or using any work, the Owner shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the Owner intends to take possession of or use. However, failure of the Owner to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The Owner's possession or use shall not be deemed substantial completion nor an acceptance of any work under the contract. The Contractor will continue to pay for any portion of the utilities which it is using.
(2.) While the Owner has such possession or use, the Contractor shall be relieved of the responsibility for the loss of or damage to the work resulting from the Owner's possession or use. If prior possession or use by the Owner delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

b. Use of Equipment
(1.) The Owner may take over and operate, with Owner employees, such equipment as is necessary for heating or cooling such areas of the building as require the service, as soon as the installation is sufficiently complete.

(2.) The Owner will advise the Contractor by letter, prior to the use of equipment, which items of equipment will be operated, and the date and time such operation will begin.

(3.) Owner operation of equipment will not relieve the Contractor of the guarantee on materials and workmanship elsewhere provided for in this contract.

(4.) The guarantee period, elsewhere provided for in this contract, for each piece of equipment shall be in accordance with the "Guarantees" clause of this contract.

L. INSPECTION AND TESTING

Clause 44 - Inspection and Testing

a. The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work called for by this contract conforms to contract requirements. The Contractor shall maintain complete inspection records and make them available to the Owner. All work shall be subject to Owner inspection and tests at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.

b. Owner inspections and tests are for the sole benefit of the Owner and do not:

(1.) Relieve the Contractor of responsibility for providing adequate quality control measures;

(2.) Relieve the Contractor of responsibility for damage to or loss of the material before acceptance;

(3.) Constitute or imply acceptance; or

(4.) Affect the continuing rights of the Owner after acceptance of the completed work latent defects, gross mistakes, fraud or the Owner's rights under any warranty or guarantee.

c. The presence or absence of a Owner inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specification without the Owner's written authorization.

d. The Contractor shall promptly furnish, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Owner. The Owner may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes re-inspection or retest necessary. Special, full size, and performance tests shall be performed as described in the contract.

e. The Contractor shall, without charge, replace or correct work found by the Owner not to conform to contract requirements, unless in the public interest the Owner consents to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

f. If the Contractor does not promptly replace or correct rejected work, the Owner may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor or (2) terminate for default the Contractor's right to proceed.

g. If, before acceptance of the entire work, the Owner decides to examine already completed work by removing it or tearing it out, the Contractor, on request, shall promptly famish all necessary facilities, labor, and material. If the work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray the expenses of the examination and of satisfactory reconstruction. However, if the work is found to meet contract requirements, the Owner shall issue a Change Order,

h. The Contractor shall at all times maintain proper facilities and provide safe access for inspection by the Owner to all parts of the work, and to the shops wherein the work is in preparation. Where the specifications require work to be specially tested or approved, it shall not be tested or covered up without timely notice to the Owner of its readiness for inspection and without the approval thereof or consent thereto by the latter. Should any such work be covered up without such notice, approval, or consent, it must, if required by Owner, be uncovered for examination at the Contractor's expense.

i. The Contractor shall notify the Owner at least twenty-four (24) hours in advance of the time required for the inspection. Should the Contractor fail to notify the Owner and proceed with work requiring inspection, all such work is rejected, and no further work shall be done on the Project until the rejected work is accepted by the Owner. Should the Contractor request acceptance of such rejected work the Owner shall, at the Contractor's expense, secure the services of private material testing laboratories, consulting engineers or licensed land surveyors, who shall certify that said work does in fact conform to the requirements of the Plans and these specifications. The work previously rejected shall be accepted by the Owner after receipt of such certification if the Owner approves of such certification.

j. Whenever the Contractor intends to perform work on Saturday, Sunday, a legal holiday, or after normal working hours, he shall give notice to the Owner representative of such intention at least two (2) working days prior to performing such work, or such other period as may be specified, so that the Owner may make necessary arrangement.

k. Construction review of the Contractor's performance by the Owner is not intended to include the review of the adequacy of the Contractors safety measures, in, on, or near the construction site.

1. The Owner will pay for initial testing services specified to be performed by the Owner. When initial tests indicate noncompliance with the contract documents, subsequent retesting occasioned by the noncompliance shall be performed by the same testing agency, and costs thereof will be deducted by the Owner from the contract sum.

Clause 45 - Condemned Materials and Labor

a. The Contractor shall promptly remove from the premises all work condemned by the Owner representative as failing to conform to the contract, whether incorporated or not, and the Contractor shall promptly replace and re-execute his own in accordance with the contract and without expense to the Owner and shall bear the expense of making good all work of other Contractors destroyed or damaged by such removal or replacement.

b. If the Contractor does not remove such condemned work within a reasonable time, fixed by written notice, the Owner may remove it and may store the material at the expense of the Contractor. If the Contractor does not pay the expenses of such removal within ten (10) days of the written notice, the Owner shall sell such materials at auction or at private sale and shall account for the net proceeds thereof, after deducting all the costs and expenses that should have been borne by the Contractor.

c. Neither the final certificate nor payment nor any provision in the contract documents shall relieve the Contractor of responsibility for faulty materials or workmanship, and, unless otherwise specified, he shall remedy any defects due thereto and pay for any damages to

other work, resulting therefrom which shall appear within a period of two (2) years from the date of substantial completion.

Clause 46 - Inspection by Other Jurisdictions

Whenever any part of the work to be performed is under the jurisdiction or control or is to be paid for, in whole or in part, by another entity or public jurisdiction, including but not limited to: city, United States Government, or State of California, such work shall be subject to inspection by the proper officials of such jurisdictions and it must pass inspection, in addition to Owner inspection and such other inspection as may be otherwise provided for in the contract documents.

Clause 47 - Final Inspection and Tests

The Contractor shall give the Owner at least ten (10) calendar days' advance written notice of the date the work will be fully completed and ready for final inspection and tests. Final inspection and tests will be started within 10 calendar days from the date specified in the aforesaid notice unless the Owner determines that the work is not ready for final inspection and so informs the Contractor.

M. ACCEPTANCE

Clause 48 - Acceptance of the Work

a. If, from the final inspection and after all contract documentation has been received, the Owner determines that the contract has been completed, the Representative will certify to the Board of Supervisors and a copy of a letter of acceptance will be sent to Contractor. (See final payment clause.) Upon receipt of the copy of the acceptance, Contractor will be relieved of the duty of maintaining and protecting the work. If the Owner determines that work is not complete after receipt of certification by Contractor, Contractor shall be notified in writing of deficiencies, and procedures for final inspection, as set forth above, shall again be initiated by Contractor. Neither determination by the Owner that the work is complete nor acceptance thereof shall operate as a bar to claim against Contractor pursuant to warranty and guarantees.

b. Partial payments shall not be construed as acceptance of any part of the work.

c. In judging the work no allowance for deviations from the drawings and specifications will be made, unless already approved in writing at the time and in the manner as called for herein.

d. Owner shall be given adequate opportunity to make any necessary arrangements for fire insurance and extended coverage.

e. Acceptance of the contract will not be given until all requirements of the contract documents are complete and approved by the Owner. This shall include, but is not limited to, all construction, guarantee forms, parts lists, schedules, tests, operating instructions, and as-built drawings - all as required by the contract documents.

N. WARRANTY AND GUARANTEES

Clause 49 - Contractor's Warranty and Guarantee

a. The Owner shall not, in any way or manner, be answerable or suffer loss, damage, expense or liability for any loss or damage that may happen to said building, work, or equipment or any part thereof, or in, on, or about the same during its construction and before acceptance. In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph j. of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

b. This warranty shall continue for a period of two (2) years from the date of substantial completion of the work. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of two (2) years from the date the Owner

takes possession. Contract bonds are in full force during the warranty period.

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner-owned or controlled real or personal property, when that damage is the result of:
(1.) The Contractor's failure to conform to contract requirements or

(2.) Any defect of equipment, material, workmanship, or design furnished

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for two (2) years from the date of repair or replacement.

e. The Owner shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage. The Contractor further agrees that within ten (10) calendar days after being notified in writing by the Owner of any work not in accordance with the requirements of the contract or any defects in the work, the Contractor will commence and prosecute with due diligence all work necessary to fulfill the terms of this guarantee, and to complete the work within a reasonable period of time.

Notwithstanding the foregoing paragraph, in the event of any emergency constituting an immediate hazard to health or safety of Owner employees, property, or licensees, the Owner may undertake at Contractor's expense, without prior notice, all work necessary to correct such hazardous conditions when it was caused by work of Contractor not being in accordance with requirements of this contract.

f. If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Owner shall have the right to place**,** repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:

(1.) Obtain all warranties that would be given in normal commercial practice;

(2.) Require all warranties to be executed, in writing, for the benefit of the Owner, if directed by the Owner; and

(3.) Enforce all warranties for the benefit of the Owner, if directed by the Owner.

h. In the event the Contractor's warranty under paragraph b. of this clause has expired, the Owner may bring suit at the Contractor's expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

i. Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Owner nor for the repair of any damage that results from a defect in Owner-furnished material or design.

j. This warranty shall not limit the Owner's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud.

O. ENVIRONMENTAL PROTECTION

Clause 50 - Dust Control

a. The Contractor shall provide such and so much water, dust palliative, or other authorized material, and the labor and devices necessary to spread such material, as the Owner deems necessary to control dust. The Contractor shall provide any and all dust control required by the Owner or any regional, state or federal governmental entity having jurisdiction over the Site or the Project. The payment for dust control shall be considered as included in other items of work and no additional compensation shall be made therefor, unless otherwise provided by the contract documents.

b. Whenever the Contractor is negligent in providing adequate dust control, the Owner shall order the Contractor to provide such adequate dust control and, if the Contractor does not comply forthwith with such order, the Owner shall have the authority to suspend the work, wholly or in part, for such period as the

Owner may deem necessary until the Contractor provides adequate dust control to the satisfaction of the Owner, or the Owner may provide such dust control and charge the Contractor therefor by deducting the cost thereof from periodic payments to the Contractor as such costs are incurred by the Owner.

Clause 51 - Excessive Noise

The Contractor shall use only such equipment on the work and in such state of repair, that the emission of sound therefrom is within the noise tolerance level of that equipment, as established by accepted standards of the industry.

Should the Owner determine that the muffling device on any equipment used on the work is ineffective or defective so that the noise tolerance of such equipment, as established by accepted standards of the industry is exceeded, such equipment shall not, after such determination by the Owner, be used on the work until its muffling device is repaired or replaced so as to bring the noise tolerance level of such equipment within such standards.

Clause 52 - Pollution Control, Cleaning

The Contractor shall not, in connection with the work, discharge any smoke, dust or other contaminants into the atmosphere or discharge any fluids or materials into any lake, river, stream, or channel as will violate regulations of any legally constituted authority. The Contractor shall control accumulation of waste materials and rubbish and dispose waste materials and rubbish off-site at the least at weekly intervals. Burning of materials is not permitted.

P. EMPLOYMENT PRACTICES

Clause 53 - Qualifications for Employment

According to Section 1735 of the California Labor Code, no person under the age of 16 years of age and no person currently serving sentence in a penal or correctional institution shall be employed to perform any work under this contract. No person whose age or physical condition is such to make his employment dangerous to his health or safety or to the health or safety of others shall be employed to perform work under this contract; provided that this sentence shall not operate against any physically handicapped persons otherwise employable where such persons may be safely assigned to work which they ably perform.

The Contractor and each subcontractor shall comply with the provisions of Sections 1777.5 and 1777.6 of the Labor code of the State of California concerning employment of apprentices by the contractor or any subcontractor under him. The contractor is responsible for compliance with the requirements of Section 1777.5 and the prime contractor and any subcontractor under him shall comply with the requirements of Section-1777.6.

All employees engaged in work on the project under this contract shall have the right to organize and bargain collectively through representatives of their own choosing, and such employees shall be free from interference, restraint, and coercion of employers in the designation of such employees for the purpose of collective bargaining or other mutual aid or protection, and no person seeking employment under this contract shall be required as a condition of initial or continued employment to join any company, union, or to refrain from joining, organizing, or assisting a labor organization of such person's own choosing. No person in the employment of the Owner shall be further employed to do any work hereunder.

Clause 54 - Hours of Work:

Eight hours of labor during any one calendar day and forty hours of labor during any one calendar week shall constitute the maximum hours of service upon all work done hereunder, and it is expressly stipulated that no laborer, workman, or mechanic employed at any time by the Contractor or by any subcontractor or subcontractors under this contract, upon the work or upon any part of the work contemplated by this contract, shall be required or permitted to work thereon more than eight (8) hours during any one calendar day and forty (40) hours during any one calendar week, except, as provided by Section 1815 of the Labor Code of the State of California, work performed by employees of Contractors in excess of eight hours per day and forty hours during any one week shall be permitted upon public work upon compensation for all hours worked in excess of eight hours per day at not less than one and one-half times the basic rate of pay. It is further expressly stipulated that for each and every violation of Sections 181 1-

1815, inclusive, of the Labor Code of the State of California, all the provisions whereof are deemed to be incorporated herein, said Contractor shall forfeit, as a penalty to Owner, twenty-five dollars ($25.00) for each laborer, workman, or mechanic employed in the execution of this contract by Contractor, or by any subcontractor under this contract, for each calendar day during which said laborer, workman, or mechanic is required or permitted to work more than eight hours in any one calendar day and forty hours in any one calendar week in violation of the provisions of said Sections of the Labor Code.

The Contractor, and each subcontractor, shall keep an accurate record showing the names of and actual hours worked each calendar day and each calendar week by all laborers, workmen, and mechanics employed by him in connection with the work contemplated by this Contract, which record shall be open at all reasonable hours to the inspection of the Owner or its officers or agents and to the Division of Labor Law Enforcement of the Department of Industrial Relations.

Clause 55 - Wages & Records

a. Wage Rates

(1.) Pursuant to Section 1770 and 1773 et seq. of the Labor Code of the State of California, the Director of Industrial Relations has ascertained the general prevailing rate of per them wages and the rates for overtime and holiday work in the locality in which the work is to be performed for each craft, classification, or type of workman needed to execute the contract which will be awarded to the successful bidder, copies of which are on file and available upon request from the Clerk of the Board.

(2.) It shall be mandatory upon the Contractor and upon any subcontractor under him, to pay not less than the said specified rates to all laborers, workmen, and mechanics employed in the execution of the Contract. It is further expressly stipulated that the Contractor shall, as a penalty to Owner, forfeit Fifty dollars ($50.00) for each calendar day, or portion thereof, for each laborer, workman, or mechanic paid less than the stipulated prevailing rates for any work done under this Contract by him or by any subcontractor under him; and Contractor agrees to comply with all provisions of Section 1770 and 1773 of the Labor Code.

(3.) In case it becomes necessary for the Contractor or any subcontractor to employ on the project under this contract any person in a trade or occupation (except executives, supervisory, administrative, clerical, or other non-manual workers as such) for which no minimum wage rate is herein specified, the Contractor shall immediately notify the Owner who will promptly thereafter determine the prevailing rate for such additional trade or occupation and shall furnish the Contractor with the minimum rate based thereon. The minimum rate thus furnished shall be applicable as a minimum for such trade or occupation from the time of the initial employment of the person affected and during the continuance of such employment.

b. Wage Records

The Contractor and each subcontractor shall keep or cause to be kept an accurate record (certified payroll) showing the names and occupations of all laborers, workers, and mechanics employed by him in connection with the execution of this contract or any subcontract thereunder and showing also the actual per diem wages paid to each of said workers, which records shall be provided to the Owner, and to the Division of Labor Law Enforcement. Copies provided will include one which has the name and social security numbers marked out.

Clause 56 - Notice of Labor Disputes

a. If the Contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this contract, the Contractor shall immediately give notice, including all relevant information, to the Owner.

b. The Contractor agrees to insert the substance of this clause, including this paragraph b. in any subcontract to which a labor dispute may delay the timely performance of this contract; except that each subcontract shall provide that in the event its timely performance is delayed or threatened by delay by any actual or potential labor dispute, the subcontractor shall immediately notify the next higher tier subcontractor or the prime Contractor, as the

case may be, of all relevant information concerning the dispute.

Clause 57 - Nondiscrimination

a. Contractor shall comply with the California Fair Employment and Housing Practices Act (Government Code 12900 et seq.) and any amendments thereto. No discrimination shall be made in the employment of persons upon public work because of the race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or sex of such persons, except as provided in Section 12940 of the Government Code, and every contractor for public works violating this section is subject to all the penalties imposed for a violation of Chapter I of Part 7, Division 2 of the Labor Code.

b. This contract may, at the option of Owner, be terminated or suspended in whole or in part in the event Contractor fails to comply with the nondiscrimination clause of this contract. In the event termination under this paragraph, Contractor shall be compensated for goods and services provided to the date of determination. Termination or suspension shall be effective upon receipt of written notice thereof.

Q. SUBCONTRACTING

Clause 58 - Subcontractors

If the manufacturer of the Bio-Safety Level 3 Modular Laboratory is a subcontractor, then they shall comply with all subcontractor requirements.

A subcontractor is a person or organization who has a direct contract with the Contractor to perform any of the work at the site. Subcontractors shall be listed in the bid proposal according to the instructions contained therein.

The Contractor agrees that he is as fully responsible to the Owner for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

Nothing contained in the contract documents shall create any contractual relation between any subcontractor and the Owner.

Clause 59 - Relations of Contractor and Subcontractor

The Contractor agrees to bind every subcontractor and every subcontractor agrees to be bound by the terms of the Agreement, the General Conditions, Supplementary Conditions, the drawings and specifications as far as applicable to his work, including the following provisions of this article, unless specifically noted to the contrary in a subcontract approved in writing as adequate by the Owner. This does not apply to minor subcontracts under $5,000.

The subcontractor agrees:

a. To be bound to the Contractor by the terms of the Agreement, General Conditions, Special Conditions, drawings and specifications, and to assume toward him all the obligations and responsibilities that he, by those documents, assumes toward the Owner.

b. To submit to the Contractor applications for payment in such reasonable time as to enable the Contractor to apply for payment under terms of the General Conditions.

c. To make all claims for extras, for extensions of time and for damages for delays or otherwise, to the Contractor in the manner provided in the General Conditions for claims by the Contractor upon the Owner.

The Contractor agrees:

a. To be bound to the subcontractor by all the obligations that the Owner assumes to the Contractor under the Agreement, General Conditions, Special Conditions, drawings and specifications, and by all the provisions thereof affording remedies and redress to the Contractor from the Owner.

b. To pay the subcontractor, upon the payment of certificates, the amount allowed to the Contractor on account of the subcontractor's work to the extent of the subcontractor's interest therein.

c. To pay the subcontractor to such extent as may be provided by the contract documents or the subcontract, if either of these provides for earlier or larger payments than the above.

Clause 60 - Subcontracts

Pursuant to the provisions of Sections 4100 to 4114 of the California Public Contract Code, inclusive of the State of California, the Contractor shall not without the consent of the Owner, either:

a. Substitute any persons as subcontractors in place of the subcontractors designated in his original bid. (The Owner's consent can only be given in cases permitted by Public Contract Code Section 4107.)

b. Permit any subcontractor to be assigned or transferred or allow any work to be performed by anyone other than the original subcontractor listed in his bid.

c. Other than in the performance of change orders, sublet or subcontract any portion of the work in excess of one-half of one percent of his bid to which his original bid did not designate a subcontractor. Should the Contractor violate any of the provisions of said Sections 4100 to 4114, inclusive, of the Public Contract Code, his so doing shall be deemed a violation of this contract, and the Owner may cancel the contract, or may assess the Contractor a penalty in the amount not more than ten (10) percent of the amount of the subcontract involved, or may both cancel the contract and assess the penalty.

R. TAXES

Clause 61 - Sales and Payroll Taxes

Each Contractor, subcontractor, and material dealer shall include all sales tax and payroll taxes required by law.

S. CHANGES

Clause 62 - Change Order Work Notification

a. Should the Owner at any time during the progress with notice to sureties of said work request any alterations, deviations, additions, or omissions from said specifications or Plans or other contract documents it shall be at liberty to do so, and the same shall in no way affect or make void the contract, but will be added to or deducted from the amount of said contract price, as the case may be, by a fair and reasonable valuation, agreed to in writing between the parties hereto. No extra work shall be performed or a change be made unless in pursuance of a written order from the Owner, duly authorized by resolution of its governing body, and by all agencies whose approval is required by law, stating that the extra work or change is authorized and no claim for an addition to the contract sum shall be valid unless so ordered. Changes may include but not be limited to:

   (1.) The specifications (including drawings and designs);

   (2.) The method or manner of performance of the work;

   (3.) The Owner-furnished facilities, equipment, materials, services, or site;

   (4.) Directing acceleration in the performance of the work; or

   (5.) Extra terms or time.

b. Any other written or oral order (which, as used in this paragraph b., includes direction, instruction, interpretation, or determination) from the Owner that causes a change shall be treated as a change order under this clause; provided, that the Contractor immediately gives the Owner written notice stating (1) that date, circumstances, and source of the order and (2) that the Contractor regards the order as a change order.

c. Except as provided in this clause, no order, statement, or conduct of the Owner shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

d. If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any such order, the Owner shall

make an equitable adjustment and modify the contract in writing as a Change Order. However, except for a "proposal for adjustment or request for a change (hereafter referred to as proposal) based on defective specifications, no proposal for any change under paragraph b. above shall be allowed for any costs incurred more than seven (7) days before the Contractor gives written notice as required. In the case of defective specifications for which the Owner is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

e. No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

f. Changes will be performed in accordance with the original contract requirements.

Clause 63 - Change Order Process

a. Notice

The Contractor will give notice of a change on his letterhead within seven (7) days from discovery and, if the Owner agrees, a proposed change order will be issued on the Owner's standard proposed change order form.

b. Proposal

Upon receipt of the proposed Change Order, the Contractor shall submit a proposal, in accordance with the requirements and limitations set forth in the "Change Orders" clause, for work involving contemplated changes covered by the proposed change.

The Contractor's written statement of the monetary extent of a request for a change shall be submitted in the following form:

(1.) Cost proposals totaling $500 or less shall be submitted in the form of a lump sum proposal with supporting information to clearly relate elements of cost with specific items of work involved to the satisfaction of the Owner, or its representative.

(2.) For cost proposal in excess of $500, the cost proposal shall be submitted in the form of a lump sum proposal supported with a detailed itemized breakdown of all increases and decreases in the contract, including all labor, equipment and materials, as required by the following paragraphs. The Contractor will use the prescribed Owner furnished proposed change order form. The Contractor shall upon request by the Owner permit inspection of the original unaltered contract bid estimate, subcontract agreements, or purchase orders relating to the change; and documents substantiating all costs associated with the cost proposal.

c. Disagreement

If the Owner disagrees with the request for change it will notify the Contractor in writing and the Contractor may elect to issue a dispute notification according to the disputes clause.

d. Pricing Time

The Contractor must submit a proposal within fifteen (15) days upon receipt of the proposed change order or the furnishing of written notice. The Contractor must submit cost proposals in less than 15 days if requested by the Owner or if required by schedule limitations.

e. Failure to Price

If the Contractor fails to submit the cost proposal within the 15-day period (or as requested), the Owner has the right to order the Contractor in writing to commence the work immediately on a force account basis and/or issue a lump sum change to the contract price in accordance with the Owner's estimate of cost. If the change is issued based on the Owner estimate, the Contractor will waive his right to dispute the action unless within 15 days following completion of the added/deleted work, the Contractor presents proof that the Owner's estimate was in error.

f. Failure to Agree

If the Owner and the Contractor fail to agree as to the cost of the proposed change order, the Contractor upon written order from the Owner shall proceed immediately with the change work. The Contractor shall be directed to proceed on a time and materials (T&M) (force account) basis. When there has been failure to

agree as to the cost, no payment will be made to the Contractor until completion of the work called for in the change order or in the written order authorizing performance of the work.

g. T&M Changes

The Owner will establish a budget not-to-exceed (NTE) price for the T&M change order which may be increased with the approval of the Owner. The Contractor will notify the Owner when he has reached 80% of the not-to-exceed budget. The Contractor shall proceed and shall maintain a daily job force account record containing detailed cost summary of labor, materials, and equipment required for the changed work. Upon being signed and agreed to by the Owner Representative on a daily basis, the force account record will become the basis for payment of the changed work, but such agreement shall not preclude subsequent adjustment based upon later audit by the Owner. The Contractor will provide a weekly accounting of cost compared to the NTE budget.

Upon completion of the work under the change order, the Contractor shall submit its invoice therefor containing only the items of labor, materials, and equipment which are in addition to the requirements of the contract and as approved by both parties, together with the allowable markups.

h. Time

The Contractor shall identify any adjustment in time of the final completion of the work as a whole which is directly attributable to the changed work within fifteen (15) days upon the receipt of the proposed change order. The Contractor's request for a change in time will be supported by a detailed schedule analysis indicating the activities which have been affected and the additional time being requested.

For a change in time for the work, the Contractor shall be entitled only to such adjustments in time by which completion of the entire work is delayed due to the performance of the changed work. Each estimate for change in the work submitted by the Contractor shall state amount of the extra time the Contractor considers should be allowed for making the requested change. Failure to request extra time when submitting such estimate shall constitute waiver of the right to subsequently claim adjustment in time for final completion based upon such changed work.

i. Type of Change

A change order may adjust the contract price either upward or downward in accordance with one or a combination of the following bases as the Owner may elect:

(1.) On a lump sum basis as supported by the breakdown of estimated costs.

(2.) On a unit price basis.

(3.) On a time and material (T&M) force account basis.

j. Change Order Costs.

(1.) Markups.

(a.) For work performed by the General Contractor in the amount equal to the direct cost (as defined herein) for the work plus 15% of the direct costs for overhead and profit.

(b.) For work performed by Subcontractor in the amount equal to the direct cost (as defined herein) for the work plus 20% of the direct cost for overhead and profit. (Suggested Breakdown: 15% to the Subcontractor, 5% to the General Contractor.)

(c.) For work performed by a Sub-subcontractor (any tier), in the amount equal to the direct cost (as defined herein) for the work plus 25% of the direct cost for overhead and profit. (Suggested Breakdown: 15% for Sub-subcontractor, 5% to Subcontractor and 5% to General Contractor.)

(d.) In no case will the total markups be greater than 25% of the direct cost notwithstanding the number of contract tiers actually existing.

(e.) For deleted work the credit markup shall be 10% of the direct cost or the agreed upon estimate thereof.

(f) The markup shall include small tools, cleanup, bonds, engineering, supervision, warranties, job site overhead and Home Office overhead. No markup will be allowed on taxes. (See the following paragraphs for more detailed exceptions.)

(2.) Direct Costs.

(a.) Labor

Cost for labor shall include any employer payments to or on behalf of the workmen for health, welfare, pension, vacation, and similar purposes. Labor rates will not be recognized when in excess of those prevailing in the locality and time the work is being performed. The costs for all supervision including General Superintendents and Foremen will be included in the markups established by the Contract. The only exception to this will be working foremen who perform actual manual labor. No labor charges will be accepted for engineering or proposal preparation. These costs will be included in the markups established by the Contract. A breakdown of the payroll rates for each trade will be provided for all change orders 15 days after notice to proceed including the base rate, benefits, payroll taxes, and insurance.

Overtime and premium time pricing will only be allowed for labor which, based on mutual agreement, shall be performed after normal working hours.

(b.) Materials

The actual cost to the Contractor for the materials directly required for the performance of the changed work. Such cost of materials may include the cost of transportation and no delivery charges will be allowed unless the delivery is specifically for the changed work.

If a trade discount by an actual supplier is available to the Contractor, it shall be credited to the Owner. If the materials are obtained from a supplier or source owned wholly by or in part by the Contractor, payment thereof will not exceed the current wholesale price for the materials. The term "trade discount" includes the concept of cash discounting.

If in the opinion of the Owner, the cost of the materials is excessive or if the Contractor fails to furnish satisfactory evidence of a cost to him other from the actual supplier thereof, then, in either case, the cost of the materials shall be deemed to be the lowest current wholesale price at which similar materials are available in the quantities required. The Owner reserves the right to furnish such materials as it deems advisable and the Contractor shall have no claims for cost or profits on material furnished by the Owner.

(c.) Equipment

The actual cost to the Contractor for the use of equipment directly required in the performance of the changed work. In computing the hourly rental of equipment, any time less than 30 mines shall be considered one-half hour. No payment will be made for time while equipment is inoperative due to breakdown or for non-workdays. In addition, the rental time shall not include the time required to move the equipment to the work for rental of such equipment, and to return it to the source. No mobilization or demobilization will be allowed for equipment already on site. If such equipment is not moved by its own power, then loading and transportation costs will be paid in lieu or rental time thereof However, neither moving time nor loading and transportation costs will be paid if the equipment is used on the project in any other way than upon the changed work.

Individual pieces of equipment having a replacement value of $ 1,000 or less shall be considered to be small tools or small equipment and no payment will be made thereof.

The rental rate for equipment will not exceed that as recommended by the lower of Cal-trans or as contained in the

Association of Equipment Distributors (AED) book.

For equipment owned, furnished, or rented by the Contractor no cost thereof shall be recognized in excess of the rental rates established by Cal-trans and/or the AED any tier book.

The amount to be paid to the Contractor for the use of equipment as set forth above shall constitute full compensation to the Contractor for the cost of fuel, power, oil, lubricants, supplies, small tools, small equipment, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, labor (except for equipment operators) and any and all costs to the Contractor incidental to the use of the equipment.

(d.) Records

The Contractor shall maintain his records in such a manner as to provide a clear distinction between the direct costs of extra work and the cost of other operations. This requirement pertains to proposed change orders, change orders and work the Contractor considers to be potential change orders.

The Contractor will provide at the beginning of the project a certified statement and detailed calculation from its accountant establishing the job site and pro rata home office overhead rates for itself and its major subcontractors.

The Contractor at the beginning of the project shall provide a complete listing of all Contractor and subcontractor hourly labor rates.

(e.) Emergency Changes

Changes in the work made necessary due to unexpected or unforeseen site conditions, discovery of errors in plans or specifications requiring immediate clarifications in order to avoid serious work stoppage, or other changes of kind where the extent cannot be determined until completed, or under any circumstances whatsoever deemed necessary by the Owner, are types of emergency changes which may be authorized by the Owner in writing to the Contractor. The Contractor shall commence performance of emergency changes immediately upon authorization. These changes will be performed on a time and material (force account) basis as aforementioned.

(f.) Surety

All alterations, extensions of time, extra and additional work and other changes authorized by these specifications or any part of the contract may be made without securing consent of the surety or sureties on the contract bonds

(g.) Impact

The Contractor may not reserve a right to asses impact cost, extended job site costs, extended overhead, and/or constructive acceleration at some later date as related to any and all changes. These costs or estimated costs must be supported with full schedule and cost documentation with each proposed change within the prescribed submission times. If a request for a change is denied and the Contractor disputes the denial, the Contractor must supply the aforementioned documentation to support his claim under the disputes clause of this contract. The Contractor shall waive his right to impact extended jobs and overhead costs and construction acceleration due to the multiplicity of changes and clarifications.

Clause 64 - Audit

a. The Owner shall have the right to examine and audit all books, estimates, records, contracts, documents, bid documents, subcontracts, and other data of the Contractor (including computations and projections) related to negotiating, pricing, or performing the modification in order to evaluate the accuracy, completeness, and currency of the cost or pricing data at no additional cost to the Owner.

b. The Contractor shall make available at its office at all reasonable times the materials described in paragraph (a) above, for examination, audit,

or reproduction, until 3 years after final payment under this contract.

c. The Contractor shall insert a clause containing all the provisions of this clause, including this paragraph c., in all subcontracts over $10,000 under this contract.

T. PAYMENT

Clause 65 - Payment

a. The Owner shall pay the Contractor the contract price as provided in this contract.
b. The Owner shall make progress payments monthly as the work proceeds, on estimates approved by the Owner. The Contractor shall furnish a breakdown of the total contract price showing the amount included therein for each principal category of the work, in such detail as requested, to provide a basis for determining progress payments.

c. Contractor shall submit to the Owner and to the Representative vouchers, schedule activities, or other satisfactory proof of the value of any work for which he claims payment on such account, and receipts showing that progress payments have been duly made on such contracts, and for materials furnished.

d. In the preparation of estimates the Owner may authorize material delivered on the site and preparatory work done to be taken into consideration for major equipment if:

(1.) Consideration is specifically authorized by this contract; and

(2.) The Contractor furnishes satisfactory evidence that it has acquired title and paid invoices for such material and that the material will be used to perform this contract.

e. On the 25th of each month the Contractor will submit his request for payment. Prior to that submittal the Owner will review the requested percentage of completion for each activity. The payment request will be in the format as prescribed by the Owner and will refer to the schedule (or cost loaded CPM where required).

f. All estimates of work performed during the preceding calendar month and all requests for payment thereof or for partial payment on account of equipment delivered but not installed, as herein provided for, shall be certified by the Representative and countersigned by him before any certificate shall be given to Owner. If errors are found in a request for payment, the errors shall be corrected by the Contractor, and the request resubmit to the Owner and to the Representative for approval, bearing the date of same as corrected.

g. Retainage and Withholds

(1.) Retainage. In making progress payments, there shall be retained 5 percent of the estimated amount until final completion and acceptance of the contract work. When the work is substantially complete, the Owner shall retain an amount that the Owner considers adequate protection and may release to the Contractor all or a portion of any excess amount.

h. Payment of Employers

Contractor and each subcontractor shall pay each of his/her employees engaged in work under this contract in full (less deductions made mandatory by law) at least once a week.

i. Withholds

The Representative may withhold (in excess of retainage) or, on account of subsequently discovered evidence, nullify the whole or a part of any certificate to such extent as may be necessary to protect the Owner from loss on account of.

(1.) Defective work not remedied.

(2.) Claims filed or reasonable evidence indicating probable filing of claims.

(3.) Failure of the Contractor to make payments properly to subcontractors or for material or labor.

(4.) Damage to another Contractor.

(5.) Delays in progress toward completion of the work, with the stipulated amount of liquidated damages being withheld for each day of delay for which no extension is granted.

When the above grounds are removed, payment shall be made for the amount withheld because of them.

j. Liens and Stop Notices

(1.) Should stop notices be filed with the Owner or Owner Auditor, Owner shall withhold the amount claimed from certificates until such claims shall have been resolved pursuant to law, Civil Code Section 3179 et seq.

(2.) At the election of the Owner, Contractor shall provide, within ten (10) days of receipt of each progress payment, unconditional waivers and release of lien rights, signed by Contractor and each of its subcontractors and materials suppliers, in the form established therefor by Section 3262 of the Civil Code of the State of California.

(3.) Subject to other conditions of these specifications, within thirty (30) days after receipt of Contractor's monthly request for payment on account, during the progress of the work, the Owner shall issue certificates of payment on account of the contract, for labor and materials actually incorporated in place in the building in a satisfactory manner approved by Representative.

k. Rights to Property

All material and work covered by progress payments made shall, at the time of payment, become the sole property of the Owner, but this shall not be construed as:

(1). Relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or

(2.) Waiving the right of the Owner to require the fulfillment of all of the terms of the contract.

Clause 66 - Final Payment

a. General. The Owner shall pay the amount due the Contractor under this contract after:

(1.) Final Completion and acceptance of all work; per the acceptance clause of this contract

(2.) Presentation of a properly executed voucher;

(3.) Release of all liens; and

(4.) Presentation of release of all claims against the Owner arising by virtue of this Contract, other than claims, disputes in stated amounts, that the Contractor has specifically excepted from the operation of the release.

b. Liens. Neither the final payment nor any part of the retained percentage shall become due until the Contractor, if required, shall deliver to the Owner a complete release of all liens arising out of this contract, or receipts in full in lieu thereof and, if required in either case, an affidavit that so far as he has knowledge or information the releases and receipts include all labor and material for which a lien could be filed; but the Contractor may, if any subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the Owner, to indemnify him against any lien. If any lien remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all moneys that the latter may be compelled to pay in discharging such a lien, including all costs and reasonable attorney's fees.

c. Final Certificates. When the work is ready for acceptance by the Owner, the Representative shall so certify in writing to the Board of Supervisors, and a certificate of acceptance will be issued to the Contractor which will bring his progress payment up to ninety percent of the contract price, less sums withheld regarding liquidated damages, if any.

Notice of Completion will be filed by the Owner upon completion and acceptance of the work. Providing no stop notices have been filed, thirty-five (35) days after filing of such Notice of Completion, payment due under the contract will become due to the Contractor and the Representative shall so certify to the Owner authorizing the final payment. Such payment may withhold any reasonable sums payable to Contractor for any work which could not have been completed on said date or that the Owner

may have found defective and ordered to be replaced, final payment for withholdings to be made when certified by Representative in writing to Owner.

d. Final Payment and Claims Disputes. After acceptance of work, the Owner will submit to Contractor a statement of the sum due Contractor under this contract, together with Owner payment in the amount thereof. Said statement shall take into account the contract price, as adjusted by any change orders; amounts already paid; and sums to be withheld for incomplete work, liquidated damages, and for any other cause under the contract. Within thirty (30) days after receipt thereof, Contractor shall approve such statement or file a claim with the Owner under the disputes clause. Approval of said statement or failure to file claim within said 30 day period shall constitute a waiver by Contractor of additional right to compensation under or by reason of the contract and the payment so made by Owner shall thereupon become a complete settlement between Owner and Contractor. To constitute filing of claim Contractor shall set forth in writing and in detail the basis for claim and amount of money for which demand is made and shall submit same to the Owner in accordance with the disputes clause of this contract. No demand by Contractor shall be recognized as a claim by the Owner unless it is filed in accordance with this paragraph and the disputes clause.

   The Owner shall examine claim so filed and, if the claim is found to be proper, an Owner payment will be issued in the amount due upon such claim. If the Owner finds that such claim is without merit, Contractor will be so notified. Finding by the Owner on such claim shall be binding and conclusive upon Owner and Contractor as to questions relating to performance of the contract and amount to be paid thereunder except in case of gross error. Decision of the Owner will be in writing and a copy finished to Contractor.

   The Contractor shall, from the effective date of acceptance until the expiration of three (3) years after final settlement under this contract, preserve and make available to the Owner, all its books, records, documents, and other evidence bearing on the costs and expenses of the Contractor under this contract.

Clause 67 - Assignment

Neither the Contract, nor any part thereof, nor moneys due or to become due thereunder may be assigned by the Contractor without the prior written approval of the Owner.

U. SUSPENSION OF WORK, TERMINATION

Clause 68 - Suspension of Work

a. The Owner may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Owner determines appropriate for the convenience of the Owner.

b. If the performance of all or any part of the work is, for any unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Owner in the administration of this contract, or (2) by the Owner's failure to act within the time specified in this contract (or within a reasonable time if not specified), the Contractor will provide notice according to this clause.

   Any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, will result in the contract being modified in writing accordingly by Change Order. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or for which a change order is provided for or excluded under any other term or condition of this contract.

c. A claim under this clause shall not be allowed (1) for any costs incurred more than seven (7) days before the Contractor notified the Owner in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order), and (2) unless the claim in an amount stated, is asserted in writing within 7 days after the termination of the suspension, delay, or interruption. Failure to provide a 7 day notice

and/or a fully detailed claim including all facts and pricing within the 7 days after termination of suspension will result in the Contractor waiving his/her right to claim.

d. The Owner may stop work in accordance with the safety and health clause and noncompliance clause of this contract for no additional cost or time.

Clause 69 - Non-Compliance with Contract Requirements

In the event the Contractor, after receiving written notice from the Owner of noncompliance with any requirement of this contract, fails to initiate promptly such action as may be appropriate to comply with the specified requirement within a reasonable period of time, the Owner shall have the right to order the Contractor to stop any or all work under the contract until the Contractor has complied or has initiated such action as may be appropriate to comply within a reasonable period of time. The Contractor will not be entitled to any extension of contract time or payment for any costs incurred as a result of being ordered to stop work for such cause.

Clause 70 - Termination

a. Termination for Breach

If the Contractor should be adjudged bankrupt or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he or any of his subcontractors should violate any of the provisions of the Contract, the Owner may serve written notice upon him and his surety of its intention to terminate the Contract, such notice to contain the reasons for such intention to terminate the Contract, and, unless within ten (10) days after serving of such notice, such violation shall cease and satisfactory arrangements for correction thereof be made, the Contract shall, upon the expiration of said ten days, cease and terminate. In the event of any such termination, the Owner shall immediately serve written notice thereof upon the surety and the Contractor, and the surety shall have the right to take over and perform the Contract; provided, however that, if the surety within fifteen (15) days after the serving upon it of notice of termination does not give the Owner written notice of its intention to take over and perform the contract or does not commence performance thereof within thirty (30) days from the date of the serving of such notice, the Owner may take over the work and prosecute the same to completion by contract or by any other method it may deem advisable, for the account and at the expense of the Contractor, and the Contractor and his surety shall be liable to the Owner for any excess cost occasioned the Owner thereby, and in such event the Owner may without liability for so doing take possession of and utilize in completing the work, such materials, appliances, plants, and other property belonging to the Contractor as may be on the site of the work and necessary therefor.

b. Termination for Convenience

(1.) The Owner may terminate performance of work under this contract in whole or, from time to time, in part if the Owner determines that a termination is in the Owner's interest. The Owner shall terminate by delivering to the Contractor a Notice to Terminate specifying the extent of termination and the effective date.

After receipt of a Notice of Termination, and except as directed by the Owner, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:

- Stop work as specified in the notice.
- Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.
- Terminate all subcontracts to the extent they relate to the work terminated.
- Assign to the Owner, as directed, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Owner shall have the right to settle or to pay any termination settlement proposal arising out of those terminations.

- With approval or ratification to the extent required by the Owner, settle all outstanding liabilities and termination settlement proposals arising from termination of subcontracts; the approval or ratification will be final for purposes of this clause.

- As directed by the Owner, transfer title and deliver to the Owner (1) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and (2) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Owner.

- Complete performance of the work not terminated.

- Take any action that may be necessary, or that the Owner may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Owner has or may acquire an interest.

- Use its best efforts to sell, as directed or authorized by the Owner, any property of the types referred to in subparagraphs above; provided, however, that the Contractor (1) is not required to extend credit to any purchaser and (2) may acquire the property under the conditions prescribed by, and at prices approved by, the Owner. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Owner under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Owner.

(2.) After termination, the Contractor shall submit a final termination settlement proposal to the Owner in the form and with the certification prescribed by the Owner. The Contractor shall submit the proposal promptly, but no later than 30 days from the effective date of termination. If the Contractor fails to submit the proposal within the time allowed, the Owner may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.

(3.) Subject to paragraph (2) above, the Contractor and the Owner may agree upon the whole or any part of the amount to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (3) or paragraph (4) below, exclusive of costs shown in subparagraph (4) below, may not exceed the total contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be amended with a Change Order, and the Contractor paid the agreed amount. Paragraph (4) below shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.

(4.) If the Contractor and Owner fail to agree on the whole amount to be paid the Contractor because of the termination of work, the Owner shall pay the Contractor the amounts determined as follows, but without duplication of any amounts agreed upon under the above paragraphs:

(a.) For contract work performed before the effective date of termination, the total (without duplication of any terms) of:

(i) The cost of this work;

(ii)The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (i) above; and

(iii) A sum, as profit on (i) above, determined by the Owner to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the Owner shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.

(b.) The reasonable costs of settlement of the work terminated including:

(i)Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;

(ii)The termination and settlement of subcontracts (excluding the amounts of such settlements); and

(iii)Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

(5.) Except for normal spoilage, the Owner shall exclude from the amounts payable to the Contractor under paragraph (4) above, the fair value, as determined by the Owner, defective work, and of property that is destroyed, lost, stolen, or damaged so as to become undeliverable.

(6.) The Contractor shall have the right of claim under the Disputes clause, from any determination made by the Owner under paragraph (2), (4), or (8), except that if the Contractor failed to submit the termination settlement proposal within the time provided in paragraph (2) or (8), and failed to request a time extension, there is no right of appeal. If the Owner has made a determination of the amount due under paragraph (2), (4), or (8), the Owner shall pay the Contractor the amount determined by the Owner if there is no right of appeal or if no timely appeal has been taken, or the amount finally determined on legal determination.

(7.) In arriving at the amount due the Contractor under this clause, there shall be deducted:

(a.) All unliquidated advance or other payments to the Contractor under the terminated portion of this contract;

(b.) Any claim which the Owner has against the Contractor under this contract; and

(c.) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Owner.

(8.) If the termination is partial, the Contractor may file a proposal with the Owner for a Change Order of the price(s) of the continued portion of the contract. The Owner shall make any Change Order agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 30 days from the effective date of termination unless extended in writing by the Owner.

(9.) The Owner may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the contract, if the Owner believes the total of these payments will not exceed the amount to which the Contractor will be entitled. If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Owner upon demand, together with interest.

(10.)Unless otherwise provided in this contract or by statute, the Contractor will maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Owner, State and/or the U.S. Government or their representatives at all reasonable times, without any direct charge.

V. DISPUTES/CLAIMS

Clause 71 - Disputes/Claims

a. Definition of Claim: A "claim" means a separate demand by the contractor for (a) time extension, (b) payment of money or damages arising from work done by or on behalf of the contractor pursuant to the contract and payment of which is not otherwise entitled to, or (c) an amount the payment of which is disputed by the owner.

b. Filing Claim Is Not Basis To Discontinue Work: the contractor shall promptly comply

with work under the contract or work requested by the owner even though a written claim has been filed**.** The contractor and the owner shall make good faith efforts to resolve any and all claims that may arise during the performance of the work covered by this contract.

c. Claim Notification: the contractor shall, within seven (7) calendar days after the claim arises, submit a notification with the owner stating clearly the basis for the claim. The owner's representative will issue a decision. If the notification is not submitted within seven (7) days after the claim arises, the contractor shall be deemed to have waived all right to assert the claim and the claim shall be denied.

d. Formal Claim Submission: If the contractor does not concur with the representative's decision, the contractor will issue a formal claim within seven days of receipt and all detailed information within thirty days. All claims shall be submitted before the date of final payment. If the formal written claim is not submitted within seven calendar days and detailed information within thirty days, the contractor shall be deemed to have waived his right to assert the claim**,** and the claim shall be denied.

e. Formal Claim Format: The contractor shall provide all written detailed documentation which supports the claim**,** including but not limited to: arguments, justifications, cost, estimates, schedule analysis, and detailed documentation. The format of the claim shall be as follows:

(1.) Cover letter.

(2.) Summary of factual basis of claim and amount of claim.

(3.) Summary of the legal basis of the claim, including applicable law and the specific clause or section under the contract under which the claim is made.

(4.) Documents relating to the claim, including:

(a.) Specifications

(b.) Drawings

(c.) Clarifications (RFI's)

(d.) Other relevant information

(5.) Analysis of claim merit.

(6.) Analysis of claim cost.

(7.) Certification.

(8.) Chronology of events and correspondence.

f. Certification: The contractor (and subcontractors, if applicable) shall submit with the claim a certification that:

(1.) The claim is made in good faith;

(a.) Supporting data are accurate and complete to the best of the contractor's knowledge and belief;

(b.) The amount requested accurately reflects the amount of compensation for which the contractor believes the owner is liable.

g. Signature of Certification: If the contractor is not an individual, the certification shall be executed by an officer or general partner of the contractor having overall responsibility for the conduct of the contractor's affairs.

h. False Claims: If a false claim is submitted, it will be considered fraud, and the contractor may be subject to criminal prosecution.

i. Mandatory Claim Procedure: The contractor's claim will be denied if it fails to provide the written basis of the claim and certification as set forth herein.

j. Owner May Request Additional Information: Within thirty days of receipt of the formal claim detailed information, the owner may request in writing any additional documentation supporting the claim or documentation relating to defenses to the claim which the owner may assert.

k. Public contract code Section 20104: For claims of $375,000 or less, Section 20104 of the Public Contract Code shall apply. Claims shall not be subject to arbitration, except as expressly required in Section 20104 et seq. of the Public Contract Code as stated below:

Section 20104

a. (1) This article applies to all public works claims of three hundred seventy-five thousand dollars ($375,000) or less which arise between a contractor and a local agency.

(2) This article shall not apply to any claims resulting from a contract between a contractor and a public agency when the public agency has elected to resolve any disputes pursuant to Article 7.1 (commencing with Section 10240) of Chapter I of Part 2.

b. (1)"Public work" has the same meaning as in Sections 3100 and 3106 of the Civil Code, except that "public work" does not include any work or improvement contracted for by the State or the Regents of the University of California.

(2) "Claim means a separate demand by the contractor for (A) a time extension, (B) payment of money or damages arising from work done by or on behalf of the contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the local agency.

c. The provisions of this article or a summary thereof shall be set forth in the plans or specifications for any work which may give rise to a claim under this article.

d. This article applies only to contracts entered into on or after January 1, 1991.

Section 20104.2 For any claim subject to this article, the following requirements apply:

a. The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.

b. (1) For claims of less than fifty thousand dollars ($50,000), the local agency shall respond in writing to any written claim within 45 days of the receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the local agency may have against the claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.

(3) The local agency's written response to the claim as further documented, shall be submitted to the claimant within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.

c. (1) For claims of over fifty thousand dollars ($50,000) and less than or equal to three hundred seventy-five thousand dollars ($375,000), the local agency shall respond in writing to all written claims within 60 days of receipt of the claim**,** or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the local agency may have against the claimants

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.

(3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.

d. If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the local agency's response or within 15 days of the local agency's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the local agency shall schedule a meet-

and-confer conference within 30 days for settlement of the dispute.

e. If following the meet-and-confer conference the claim or any portion remains in dispute, the claimant may file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter (commencing with Section 900) of Part 3 of Division 3.6 of Title I of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) until the time the claim is denied, including any period of time utilized by the meet-and-confer conference.

Section 20104.4 The following procedures are established for all civil actions filed to resolve claims subject to this article.

a. Within 670 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to nonbonding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court.

b. (1) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, not-withstanding Section 1141.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

(2) In addition to Chapter 2.5 (commencing with Section 1141. 10) of Title 3 of Part 3 of the Code of Civil Procedure, (A) arbitrator shall, when possible, be experienced in construction law, and (b) any party appealing an arbitration award who does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, also pay the attorney's fees on appeal of the other party.

Section 20104.6

a. No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.

b. In any suite filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

Section 20104.8

a. This article shall remain in effect only until January 1, 1994, and as of that date is repealed, unless a later enacted statute, which is enacted before January 1, 1994, deletes or extends that date.

b. As stated in subdivision (c) of Section 20104, any contract entered into between January 1, 1991, and January 1, 1994, which is subject to this article shall incorporate this article. To that end, these contracts shall be subject to this article even if this article is repealed pursuant to subdivision (a).

SECTION 01000

SPECIAL CONDITIONS

PART 1 - GENERAL

A. Day to Day Operation

1. Contractor is advised that the project is the site preparation work for a modular building installation (by others) at installation at San Joaquin County Public Health Office/Lab Facility. This facility may operate 24-hours per day and their continued operation is a project requirement. Construction activities must not impede emergency response to or from the facility. The perimeter of the facility is fenced and monitored for security. No breaches in this barrier are allowed.

B. Occupied Site

1. Clients and staff of San Joaquin County Public Health Services will use the adjoining areas. Access around the construction site will continue to be used and must be kept open at all times.

C. Constrained Hours

1. Hours of work could be constrained by events related to keeping the Public Health facility operational. Contractor must provide planning, scheduling and prevention activities in prosecuting the work to achieve required progress and accommodate normal area activities.

D. Utility Interruptions

1. Utility interruptions are anticipated under this contract. Any required utility interruptions must be scheduled, and may need to be performed during “off” hours. Utility work that impacts these systems must be addressed through coordination with the Owner’s representative. “Hot Taps” and other “on-line” methods may be required to maintain uninterrupted service. Any work which may affect existing utilities shall be pre-planned and approved by the Owner’s representative and the facility.

E. Fire Lane Access

1. The Contractor is required to maintain emergency vehicle access to the project. All thoroughfares must be kept free of obstructions at all times.

F. Phasing

1. Contractor will address phasing needs of utility work, site preparation, modular lab, and installation, return of construction site to Owner, beneficial occupancy, etc. Significant pre-planning with owner approval will be required to properly coordinate the work. Cost and schedule impacts should be anticipated to facilitate the pre-planning work.

G. Permits/Fees

1. Building permits and service fees for permanent utility connections will be acquired and paid for by the Contractor. In addition, work performed directly by utility providers on permanent connections will be commissioned and paid for by the Contractor. All permit costs are by the Contractor including any construction permit costs relating to the emergency generator. This Project is under the jurisdiction of San Joaquin County Community Development Department.

H. Safe Environment

1. Contractor is to secure site to protect the general public, staff and clients of the San Joaquin County. The Contractor will be required to maintain the adequate protective measures around the site.

I. Parking

1. Contractor laydown and parking areas are to be coordinated with the Owner's Representative and is restricted to the limits of work shown on the drawings. Adjacent properties shall not be disturbed without written consent of the Owner's Representative.

J. Deportment

1. The Contractor and all of the Contractor's employees and Subcontractors and their employees shall conduct themselves in a professional manner, avoid using profanity, playing loud music and shall be fully clothed while on the work site. The contractor may be requested to remove employees who refuse to comply.

K. Multi-Jurisdictional

1. Project conforms to rules and regulations of San Joaquin County, the City of Stockton Municipal Utilities Department, Pacific Gas & Electric, AT&T, and local fire district.

L. Entrances

1. Contractor shall not impede existing vehicular or pedestrian entrances. Coordinate required traffic disruptions with Owner.

M. Temporary/Permanent Power

1. Temporary power point of connection is not available to Contractor. Contractor shall pay for its own temporary distribution of utilities.

N. Address

1. Bidding address is 44 North San Joaquin Street, Suite 590, Stockton, CA, 95202.

END OF SECTION

SECTION 01010

SUMMARY OF WORK

PART 1 - GENERAL

1.1 DESCRIPTION

A. Summary of Work: Project includes required site work, utility connections to existing water and sewer, new electrical feeder including emergency generator and transfer switch. Permanent foundation, covered walkway and patch-paving.

1.2 CONTRACTOR'S GENERAL DUTIES

A. The following provides a general list of duties, which is not all-inclusive. Should there be a conflict with other Contract requirements the more restrictive will apply.

B. Unless specifically noted otherwise, provide and pay for all of the following:

1. Labor, materials, and equipment. Note is made that this is a prevailing wage job.

2. Tools, construction equipment, and machinery.

3. Transportation, quality control, and other facilities and service necessary for the proper completion of the work in accordance with the Contract Documents.

4. Pay legally required sales, consumer, and use taxes.

5. Water, heat, utilities required during construction period.

6. Enforce offsite parking provisions for employees, vendors, suppliers, etc. as required. Monitor and enforce traffic and parking in areas off limits to contractors.

7. Legal disposal of hazardous and non-hazardous wastes

C. Permits and fees are covered in Section 01400-Quality Control, 1.4.A.

D. Give required notices.

E. Comply with codes ordinances, rules, regulations, orders, and other legal requirements of public authorities, which govern the performance of the work.

F. Promptly submit written notice to the Owner's Representative of any observed variances of the Contract Documents from legal requirements.

G. Enforce strict discipline and good order among employees. Do not employ persons on the job who are unfit or unskilled in their assigned tasks.

H. Seek clarifications in accordance with RFI procedures established by the Owner's Representative.

I. Prepare a Schedule describing in detail the Contractor's approach and methods of prosecuting the work in accordance with the construction and time constraints. The Schedule should show the interdependence of construction activities and shall be cost and resource loaded.

J. Be responsible for the overall coordination of the work. Prepare coordination drawings to indicate how work shown by separate subcontractor shop drawings will be interfaced and sequenced for installation.

K. Submit a Schedule of Values, Construction Schedule, and Requests for Payment in accordance with the General Conditions, the Supplemental Conditions, and these specifications.

L. Revise and refine the Schedule to reflect authorized changes as they occur.

M. Maintain appropriate accounting records (including separate accounts for changes).

N. Recommend necessary or desirable changes in the work for the review of the Owner's Representative. Review subcontractors' requests for changes and submit recommendations to the Owner's Representative. Submit requests for substitutions in accordance with these specifications.

O. Consult with the Owner's Representative to obtain interpretations of the Contract Documents. Assist in resolutions of questions and transmit written interpretations to concerned parties.

P. Attend Project meetings and special meetings as necessary.

Q. Be responsible for the quality of the work performed under the Contract and for the materials, equipment, and supplies to be incorporated in the work.

R. Provide temporary facilities and controls.

S. Provide site security and safety.

T. Maintain accurate Project records which will be turned over to the Owner at termination of the work.

U. Verify that the jobsite is maintained in a clean, neat and orderly manner during the progress of the work and at the completion of the work. Maintain access point in a clean condition daily.

V. Direct the checkout of utilities, operation systems, and equipment, including the initial start-up and testing and provide operating instructions.

W. Submit maintenance manuals, operating data, warranties, bonds, etc., to the Owner's Representative.

X. Perform all other work described in the Contract Documents to complete the work.

Y. Submit copies of all subcontractor agreements (including pricing) within thirty (30) days of Notice to Proceed. Also, provide the original bid estimate of the General Contractor and major subcontractors within seven (7) days of the Notice to Proceed or payment may be withheld.

Z. Prevent any impact to the adjacent facilities or their operations.

1.3 WORK BY OTHERS

A. The County may have other Contractors performing work outside of this contract within the same general area, and mutual coordination with that Contractor will be required.

B. Contractor understands that this project connects to existing utilities and will become familiar with and coordinate to integrate with the previous work.

1.4 PROGRESS AND COMPLETION

A. All work shall be done under the Contract and shall be completed within 45 calendar days beginning on the date stipulated in the written Notice to Proceed.

B. Actual, physical work shall commence no later than one day after the date stipulated on the Notice to Proceed, and shall be performed in complete accordance with the Contractor's Work Plan and Progress Schedule. The Contractor shall perform his work in an expedient manner furnishing enough equipment and workforce to maintain at all times Contractor's program of work.

C. It is expressly agreed that time is of the essence of this Contract, and Contractor agrees to perform the work within the time and in the manner specified, or within the time of such extensions as may be granted. Contractor shall be liable for liquidated damages for failure to meet the completion date.

D. In the event that the rate of actual progress of the work falls ten (10) days behind the estimated progress indicated on the Contractor's Progress Schedule, the Contractor shall accelerate the work by placing additional forces and equipment on the Project or any other means so that the project will be completed within the Contract time irrespective of the Contractor's claim for time extensions.

E. The Contractor shall continuously staff the job with no interruption of work. The Contractor shall keep the Owner's Representative advised of his work schedule with weekly work plans, progress reports, and photographs or video documentation of Contractor progress transmitted to the Owner.

F. The Contractor will provide the necessary crews and workforce to meet the schedule requirements for constructing all facilities within the Contract duration.

1.5 ADJACENT SITE CONDITION SURVEY

A. Prior to commencement of Work, the Contractor, the Owner and the Owner's Representative shall jointly survey the site and existing buildings, paving, plant life and other items, noting and recording existing damage such as cracks, sags, loose masonry, unhealthy plant life and other damage.

B. This record shall serve as a basis for subsequent determination of damage to these items due to settlement or movement caused by demolition and construction operations.

C. Such damage, as noted, shall be suitably marked on the item if possible, and the parties making the survey shall sign the official record of existing damage.

D. Cracks, sags or other damage to the site and adjacent buildings, paving, plant life and other items not noted in the original survey but subsequently observed shall be reported immediately to the Owner.

1.6 PROTECTION OF EXISTING UTILITIES

A. The Drawings show approximate locations of existing above and below grade structures, drainage line, storm drains, sewers, water, gas, electrical lines, and other items as they are known to exist in the area of the work.

B. Verify the horizontal location and vertical elevation of these known existing installations before proceeding with excavation or other operations which may cause damage, maintain them in service where appropriate, and repair damage caused by the performance of the work, at no increase in the Contract Sum. The existing buildings, facilities, and utilities must be kept in continuous operation throughout the term of this Contract.

Special consideration should be given to work being performed near the existing building foundations. Contractor shall contact underground service alert in accordance with their protocol, prior to any excavation.

C. Additional utilities and portions of structures whose locations are unknown may exist. If such utilities are encountered, immediately notify the Owner's Representative.

D. In addition to notification, if a structure or utility is damaged, take appropriate action as specified in the General Conditions.

1.7 PROTECTIVE MEASURES

A. The Contractor shall provide and maintain substantial and adequate protection as may be required to protect new and existing work, adjacent facilities, the Owner's clients and employees, the public at large, their possessions (such as cars) and all items of equipment and furnishing for the duration of work.

B. The Contractor shall repair or make good any and all damage that it may cause to the building's facilities and utilities, (including landscaping, roads, fencing, etc.) or property (such as cars) to the full satisfaction of the Owner's Representative and at no cost to the Owner.

1.8 PROJECT ADMINISTRATION

A. The Owner's Representative is an agent of General Services Department-Capital Projects and has exclusive authority in all matters concerning this project. Contractor shall take direction from the Owner's Representative or his designee only. Any directions, suggestions or proposed changes from any other entity not associated with construction administration or inspection shall be disregarded and immediately reported to the Owner's Representative.

B. All materials supplied and all work done by the Contractor shall be under the general administration of the Owner's Representative and in accordance with the Drawings and Specifications.

C. The County has the right but not the duty to maintain a duly authorized representative on the work, full or part-time, who will perform observation and administration during the construction phase.

D. Code Inspection will be by personnel of City of Stockton, County Building Department, County Public Works, and Owner's Representative. Building code required specialty inspection for site prep and BSL-3 installation will be by outside agency, employed by the Owner. General Services Department-Capital Projects Inspectors will monitor quality control and specification compliance.

E. Contractor to procure all plans and specifications needed for its use of its subcontractors, etc. at its own cost. Plans and specifications may be purchased from ARC Stockton Blue (formerly Stockton Blueprint) Plan Well at www.stocktonblue.com, or at the ARC Stockton Blue Office, 1421 N. El Dorado Street, Stockton, CA 95202, (209) 464-6012.

1.9 CONTRACTOR MANAGEMENT

A. The Contractor will provide a Project Manager and/or Superintendent who have previously constructed projects of similar size and scope. If requested by the Owner, the Contractor will provide the resumes for Project Manager and/or Superintendent for approval by the County. In addition, the Contractor's Superintendent and Project Manager will be available for interview with the County if requested as part of the approval process. If requested by the Owner the Contractor will also provide references from previous owners who have worked with the Project Manager and/or Superintendent. The Project Manager and/or Superintendent shall personally attend the jobsite each day work is ongoing and be available by direct phone contact when not on site.

B. County reserves the right to replace Superintendent or Project Manager during the project. If the County finds the performance of the Superintendent or Project Manager unacceptable, the Contractor will be required to replace the staff.

1.10 CHANGES AND CLARIFICATIONS

A. Contractor and subcontractors by submission of a bid acknowledge and waive right to claim extended overhead, delay, impact, disruption, etc., due to:

1. The multiplicity of changes issued within ten percent (10 %) of the award amount, and

2. The multiplicity of requests for information (RFI) (clarifications) if they do not exceed 100 in number.

3. If the changes exceed ten percent (10 %) of the Contract amount and the RFIs exceed 100 in number, the Contractor must demonstrate on a case-by-case basis the effect on the Contract as a whole with detailed Schedule and Cost Analysis.

4. Should any unforeseen condition be discovered that necessitates a work stoppage, Owner is not liable for any claim of extended overhead, delay, disruption, remobilization or related restrictions of contractor activities.

1.11 PARTNERING

A. The County of San Joaquin is committed to the concept of partnering in its construction projects. County staff believes that through open communication, fair negotiation and group problem solving a superior construction project can be realized. To this end, the successful contractor and subcontractors may be invited to join with the designers and county personnel to develop a partnering approach for use throughout the life of the Project.

END OF SECTION

SECTION 01020

WORK PLAN

PART 1- GENERAL

1.1 GENERAL

A. It is expressly agreed that time is of the essence of this Contract, and the Contractor agrees to perform the work within the time and in the manner specified, or within the time of such extensions as may be granted. The Contractor shall be liable for liquidated damages for failure to meet the final completion date specified herein.

B. The Contractor's scheduling of work crews, equipment, and materials will be of utmost importance for completing the work within the time allowed. The Contractor may be required to employ one or more of the following measures to build the project within the time constraints:

1. Utilize extra equipment and manpower.

2. Work more than one normal 8-hour shift per day; work more than the normal 5-day week. Overtime, two or three 8-hour shifts per day, 6 to 7 days per week may be required.

3. Employ extra staff to plan, schedule, coordinate, and expedite the work.

C. In addition to employing additional resources as described above, the Contractor will be expected to take whatever additional steps are necessary to ensure timely completion of the Project.

D. Submission of a bid by the Contractor constitutes acknowledgement that the foregoing requirements have been taken into account in the Contractor's bid price.

END OF SECTION

SECTION 01030

ALTERNATE BIDS

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section specifies administrative and procedural requirements for Alternate Bids.

B. Definition: Alternate Bids are the amounts proposed by bidders and stated on the Bid Form for certain construction activities defined in the Bidding Requirements that may be added to or deducted from Base Bid amount if the Owner decides to accept a corresponding change in either the amount of construction to be completed, or in the products, materials, equipment, systems, or installation methods described in Contract Documents.

C. Coordination: Coordinate related work and modify or adjust adjacent work as necessary to ensure that work affected by each accepted alternate is complete and fully integrated into the project.

D. Notification: Immediately following the award of the contract, prepare and distribute to each party involved, notification of the status of each Alternate bid. Indicate which Alternates have been accepted, rejected or deferred for consideration at a later date. Include a complete description of negotiated modifications to Alternate bids.

E. Schedules: A "Schedule of Alternate Bids" is included at the end of this Section. Specification sections referenced in the schedule contain requirements for materials and methods necessary to achieve the work described under each alternate.

F. The Owner reserves the right to accept or reject any or all Alternates.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.01 SCHEDULE OF ALTERNATE BIDS

A. General: The following Alternates are to be bid complete with Contractor overhead and profit. Each deduction includes all associated equipment, materials, and construction costs which the County will exclude from the project upon selection of any or all deduction items. The contractor will perform all other work for a fully completed project and systems not covered by the selected deduction items. Finished work will be left in a condition that will allow future installation of any such

deducted items.

1. **Deductive Bid Alternate A**
   Eliminate roof framed canopy structure and associated foundation work as outlined in the plans and specifications. This deduction includes, but is not limited to:
   - All framing, sheathing, hardware, roofing and related features for the canopy between the BSL3 and the existing building.

2. **Deductive Bid Alternate B**
   Eliminate the emergency generator, transfer switch, and enclosure/pad as outlined in the plans and specifications. This deduction includes, but is not limited to:
   - The emergency generator and appurtenant features
   - The concrete support slab on grade.
   - Related fencing, gates and appurtenances
   - Underground conduit, wiring and connections between the emergency generator and the BSL3**.**

END OF SECTION

SECTION 01035

REQUEST FOR INFORMATION AND CLARIFICATION

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included in this Section: The procedures to be followed by the Contractor upon discovery of any apparent conflicts, omissions, or errors in the Contract Documents, or upon having any questions concerning interpretation.

1.2 PROCEDURES

A. Notification by Contractor: Should the Contractor discover conflicts, omissions, or errors in the Contract Documents, or have any questions concerning interpretation or clarification of the Contract Documents, or if it appears to the Contractor that work to be done or any matter relative thereto are not sufficiently detailed or explained in the Contract Documents, then, before proceeding with the work affected, the Contractor shall immediately notify the Owner's Representative in writing and request interpretation, clarification, or additional detailed instructions concerning the work. The Contractor shall ask for any clarification or request for information immediately upon discovery, but no less than seven (7) working days prior to the start date of the activities related to the clarification, based on the latest updated version of the official Contract Schedule. It should be noted that the Contractor must use an RFI for any change made on a Submittal, but that an RFI does not replace the Submittal process.

B. The Contractor shall submit all requests for clarification and/or additional information in writing to the Owner's Representative using the Request for Information (RFI) form included in this section. An electronic version is available.

C. Number: The Owner's Representative will assign blocks of numbers for the Contractor, Engineer, Owner's Representative, and for substitutions. The Contractor will use the block of numbers consecutively with the date of issue, except for reissuance of a respective RFI in which the subscript a, b, c, etc., will be added until the RFI is resolved. Contractor shall number all attachments with RFI number followed by .1, .2, .3 etc. in the lower right hand corner of the attachment.

D. Response Time: The County, or its representative whose decision will be final and conclusive, shall resolve such questions and issue instruction to the Contractor within a reasonable amount of time, but no more than fourteen (14) calendar days. In some cases, this time may need to be lengthened or shortened for emergency situations as mutually agreed upon by all parties. Should the Contractor proceed with the work affected before receipt of a response from the Owner's Representative within the response time described above, any portion of the work which is not done in accordance with the Owner's interpretation, clarifications, instructions, or decisions subject to removal or replacement and the Contractor shall be responsible for all losses.

E. Reason for Submission: The Contractor may submit RFIs if one of the following conditions occur:

1. The Contractor discovers an unforeseen condition or circumstance that is not described in the Contract Documents.

2. The Contractor discovers an apparent conflict or discrepancy between portions of the Contract Documents that appears to be inconsistent or is not reasonably inferred from the intent of the Contract Documents.

3. The Contractor discovers what appears to be an omission from the Contract Documents that cannot be reasonably inferred from the intent of the Contract Documents.

F. Rejections: RFIs will not be recognized or accepted if, in the opinion of the County, one of the following conditions exists:

1. The Contractor submits an RFI as a Submittal.

2. The Contractor submits the RFI under the pretense of a Contract Documents discrepancy or omission without thoroughly reviewing the documents.

3. The Contractor submits the RFI in a manner that suggests that specific portions of the Contract Documents are assumed to be excluded, or by taken as an isolated portion of the Contract Documents in part rather than whole.

4. The Contractor submits an RFI in an untimely manner without proper coordination and scheduling of work or related trades.

G. Subject: Each RFI shall be limited to one (1) subject.

H. Additional Detailed Instructions (Clarifications): The Owner may furnish additional detailed written instructions to further explain the work, and such instructions shall be a part of the Contract Documents. Clarifications will be issued using the above RFI system. Should additional detailed instructions in the opinion of the Contractor constitute work in excess of the Scope of the Contract, the Contractor shall submit notification immediately and written notification thereof to the Owner's Representative no more than seven (7) calendar days following receipt of such instruction, and in any event prior to the commencement of work thereon. The Owner's Representative will then consider such notice, and if the Owner's Representative considers it justified the instructions of the Owner will be revised or a proposed Change Order will be issued. The Contractor shall have no claim for additional compensation or extension of the Schedule because of any such additional instructions unless the Contractor provides the Owner's Representative written notice thereof within the time frame specified above. In addition, the Contractor shall within fourteen (14) days from the date of notification provide detailed justification and analysis as well as complete pricing and schedule CPM fragmentary network to support any request for time extension. See the Changes Clause of the General Conditions for more details.

END OF SECTION

SAN JOAQUIN COUNTY GENERAL SERVICES DEPARTMENT-CAPITAL PROJECTS
PUBLIC HEALTH SERVICES BIO-SAFETY LEVEL 3 MODULAR LABORATORY SITE PREPARATION PROJECT
REQUEST FOR INFORMATION

RFI: _____

CONTRACTOR:	TRANSMITTAL RECORD	ATTN/FIRM	SENT	REC'D	DUE
INFORMATION REQUESTED BY:	CONTRACTOR TO CM				
SUBJECT:	CM to A/E				
	A/E CM TO CONSULTANT(S)				
DRAWING REF:	CONSULTANT(S) TO A/E				
SPEC REF:	A/E TO CM				
CONTRACT NO:	CM TO CONTRACTOR				

INFORMATION NEEDED:

DATE:_____ SIGNATURE:_____

REPLY:

DATE:_____ SIGNATURE:_____

You are authorized to proceed with the work identified in the reply to this RFI on the assumption that no change in the contract amount or completion date is required. If the RFI involves a change in the work affecting your contract amount or completion date, notify the CM immediately.

SECTION 01150

PAYMENT

PART 1 - GENERAL

1.1 DESCRIPTION

A. Monthly Progress Payment request preparation, approval and payment shall conform to the provisions of this Section and will supersede the General Conditions. In case of conflict, the more restrictive shall apply.

B. Related provisions specified elsewhere include:

1. Bid Form
2. Construction Agreement (Contract)
3. General Conditions
4. Summary of Work (Section 01010)
5. Progress Schedules (Section 01310)
6. Schedule of Values (Section 01370)

1.2 SUBMITTAL PROCEDURE

A. Upon notification of acceptance of the bid by the County, the apparent successful bidder shall, within five (5) calendar days, submit a cost breakdown of his/her bid allocated to each of the Specification Divisions. This information shall be consistent with the data in the Schedule of Values. The cost breakdown shall be in conformance with the CSI format and with subcontract values. Breakdown shall include separating all costs by building area or site work.

B. Submit a Schedule of Values based on the Cost-Loaded Schedule for each activity of work thirty (30) days after Notice to Proceed for approval by the Owner's Representative. Payment will not be made until the Schedule of Values and Cost-Loaded Schedule have been approved. The Schedule of Values shall be in conformance with the CSI format and roll up from the Cost-Loaded Schedule.

C. The Contractor will break out itemized payments for any and all stored materials as individual activities on the Cost-Loaded CPM.

D. An updated rough draft payment request based on the Cost-Loaded Schedule will be presented to the Owner's Representative at the billing meeting on or about the twenty-fifth (25^{th}) of each month.

E. On or about the first of each month and after the billing meeting with the Owner's Representative, submit an Application for Payment on a copy of the form provided by the Owner. Include the Monthly Progress Payment and the Cost Report. The monthly invoice will be based on work completed through the twenty-fifth (25^{th}) day of the previous month.

F. Using the Monthly Progress Payment and Cost Report, fill in or mark up quantities/percentages/dollars requested, including that of approved Change Orders executed prior to the date of submittal of Monthly Progress Payment and Cost Report, and submit to the Owner's Representative for review. Include such substantiating data as the Owner's Representative or Owner may request. The Monthly Progress Payment and Cost Report shall show the value of work completed, by each of the Specification Divisions as well as by each activity. The stipulated retainage shall be included in the invoice. The Contractor shall provide a sort by CSI format. The Monthly Progress and Cost Report will have the following format:

1. Activity and Specification Division number
2. Cost

3. Percent Complete

4. Cost of Previous Period

5. Previous percent complete

6. Cost This Period

7. Total Cost to Date

G. After review and when agreement is reached with the Owner's Representative on the Progress Payment Estimate, the Contractor shall generate the revised Application for Payment with Monthly Progress Payment and Cost Report for signature by the Contractor, Owner's Representative, and the Architect. The Owner's Representative will make the final determination if agreement cannot be reached on the Contractor's Payment Request.

H. The Contractor shall execute certification with signature of a responsible officer of the Contractor's firm, as the first signature on the Application for Payment with Monthly Progress Payment and Cost Report

I. The Application for Payment with Monthly Progress payment and Cost Report shall be in electronic format.

J. The Application for Payment with Monthly Progress Payment and Cost Report shall be supported with conditional releases from subcontractors.

K. Unconditional lien releases due ten (10) days after payment.

1.3 STORED MATERIALS/EQUIPMENT

A. Payment for stored material and equipment is at the discretion of the Owner. Submit separate Schedule of Prices of material and equipment to be stored on or off the work site. The schedule will show the quantities, prices, and types of materials to be stored. Stored material prices shall be shown separately on the Cost Loaded CPM based on the Schedule of Prices.

B. Payment Request may include the value of acceptable material/equipment not yet incorporated into the work, provided that all of the following conditions are met:

1. Payment will only be made for major individual material/equipment which have a value PER ITEM in excess of $10,000.00.

2. Such acceptable materials/equipment is either furnished and delivered to the site or furnished and stored for use on the Contract and such storage is within a bonded and insured warehouse located within San Joaquin County.

3. Forty-eight (48) hours prior, written approval by the Owner's Representative shall be obtained for each delivery to the warehouse.

4. Title to stockpiled material/equipment shall be vested in the Owner at the time of delivery to the site or warehouse.

5. Stockpiled material/equipment shall be inventoried and accounted for by the Contractor by an independent firm and available for inspection by the Owner's authorized agents and shall be segregated and marked as the property of Owner.

6. After delivery of the material/equipment, if any inherent or acquired defects are discovered, defective material shall be removed and replaced with suitable material at the Contractor's expense.

7. At his/her expense, the Contractor shall insure material/equipment against theft, fire, vandalism, and malicious mischief and shall deliver the policy or certificate of such insurance to the Owner's Representative naming the Owner as the insured. Insurance shall not be cancelable for at least thirty (30) days and cancellation shall not be effective until certificate thereof is given to the Owner. Present proof of insurance with each Request for Payment.

8. Submit bills of sale or paid invoices for all stored material/equipment on which payment is requested. Payment for stored materials will only be approved for individual major equipment or materials in excess of $10,000.00.

9. Nothing in the above conditions shall relieve the Contractor of his/her responsibility for incorporating material/equipment into the work in conformity with the Contract Documents.

10. Maximum payment for stored material/equipment will be the cost of the item plus applicable taxes. Submit supplier's invoice and receipt as evidence of purchase and payment, and provide supplier's executed Lien Release. Such payment shall in no case exceed the bid price for the item of work for which the material/equipment is furnished and shall not be greater than the Cost Loaded Activity.

1.4 TIMING AND TURNAROUND OF PROGRESS PAYMENTS

A. The end date for each monthly pay period shall be established as the twenty-fifth (25^{th}) day of each month and a formal payment request on or about the first (1^{st}) of the following month. The payment request will be accompanied by Certified Payrolls and complete As-Builts. Deducts may be taken for defective work, untimely Submittals, Stop Notices, etc.

B. It is the intention of the Owner to make Progress Payments to the Contractor thirty (30) days after receipt of the approved Monthly Progress Payment Application and all backup data including but not limited to payrolls, material inventories, releases of liens, certifications, and invoices.

C. Final payment shall be in accordance with the Construction Agreement and General Conditions after all of the requirements of Specification Section 01700 - Project Closeout have been met.

1.5 SPECIAL REQUIREMENTS

A. The items outlined below are to be included within the Schedule of Values. The below quantities and/or percentages are separate of the retention amounts specified elsewhere.

B. Mobilization: No greater than one percent (1%) of the bid cost will be paid as follows:

	Job Completion	Mobilization Paid
1.	10%	25%
2.	25%	50%
3.	50%	100%

C. Cost of bonds will be paid with proof of payment by the Contractor

D. One tenth percent (0.10%) of the total Contract value will be allotted for Training and O&M manuals.

E. One-half percent (0.5%) of the total Contract value will be allotted to punch list activities.

F. Cleanup: For administrative and payment purposes, allocate as a minimum one-quarter percent (0.25%) of the total Contract value for cleanup. (The actual amount required may be more or less). The 0.25% will be pro-rated as follows:

	Job Completion	Clean Up Paid
1.	25	10
2.	50	25
3.	75	50
4.	100	100

G. One tenth percent (0.10%) of the total Contract value will be allocated for accepted record documents for each subcontractor and the General Contractor.

H. If schedule updates are not complete and/or not completed by the last day of the month, payment or a portion thereof may be withheld.

I. If Submittals are not provided in the time proscribed by the Contract, payment or a portion may be withheld.

J. If As-Builts are not maintained on a consistent basis ten percent (10%) of the payment may be withheld.

K. One tenth percent (0.10%) of the total Contract will be withheld if all Guaranties/Warranties are not provided. This amount will be allocated for each Subcontractor.

L. Submittals: a maximum of five percent (5%) of the subcontract amount may be included for engineering and shop drawings for deferred submittals. Payment will be allowed after those submittals are completely approved.

END OF SECTION

SAN JOAQUIN COUNTY GENERAL SERVICES DEPARTMENT-CAPITAL PROJECTS

CONTRACTOR:

Project: Public Health Services Bio-Safety Level 3 Modular Laboratory Site Preparation Project

Pay Estimate No: **Date:** **Period From:** **To:**

	Schedule Amount	Previous Work Complete	Work This Period	Work to Date	% Complete	Balance to Finish
SUMMARY: Base Contract Amount Approved PCO's & CO's Total Contract Amount						
Gross Earnings (Attachment B) **Retention 10%** **Withhold Due To Stop Notice** **Withhold For Defective As-Builts** **Withhold For Notice to Withhold** **Net Earnings**						
Less Previous Earnings **Net Payment This Period**						

(Contractor)	Date:
Siegfried Engineering, Inc. (Engineer)	Date:
San Joaquin County General Services Department-Capital Projects (Owner)	Date:

REMIT PAYMENT TO:

SECTION 01310

SCHEDULE

PART 1 - GENERAL

1.1 DESCRIPTION

A. Progress Schedule preparation, submittal, update, and changes shall conform to the provisions of this Section. This will supersede the General Conditions Clause 22. Note equipment required by Part 2 of this section.

B. Related provisions

1. Payment (Section 01150)

2. Schedule of Values (Section 01370)

1.2 REQUIREMENTS:

A. Submit a preliminary Critical Path Method (CPM) Progress Schedule within five (5) calendar days of the Notice to Proceed. This can be an activities only four (4) week look ahead.

B. Submit a Critical Path Method (CPM) Progress Schedule with preliminary cost loading within fifteen (15) days of the NTP covering the first ninety (90) calendar days of the Contract.

C. Submit a CPM Schedule for the entire project duration with cost and man-loading no later than thirty (30) days after the Notice to Proceed.

D. Schedule submittals are subject to review and acceptance by the Owner's Representative. The Owner's Representative retains the right to withhold Progress Payments until the Contractor submits a Progress Schedule acceptable to the Owner's Representative.

E. Submit monthly progress review and update of the schedule with each Progress Payment. Schedule revisions, as requested by the Owner's Representative, are specified in Paragraph 1.6 of this Section.

F. Utilize computer scheduling system for producing CPM Progress Schedule Drawings and Network Reports.

1. Reports sorted by area, phase or activity shall be provided as approved by the Owner's Representative. The reports shall indicate activities, duration, early start & finish, man-days, unit cost, quantities and float.

2. Computer scheduling software used by the Contractor shall be Microsoft Projects 2003 or later.

1.3 PREPARATION GUIDELINES

A. The Progress Schedule shall represent a practical plan to complete the work within the Contract time. The Progress Schedule shall be consistent in every way with the Contractor's Work Plan submitted previously.

1. A schedule extending beyond the Contract time will not be acceptable.

2. A schedule showing the work completed in less than the Contract time may be found by the Owner's Representative to be impractical.

3. Any schedule found to be impractical for the preceding reason or any other reason shall be revised by the Contractor and resubmitted.

4. A schedule showing the work completed in less than the Contract time, which is found to be practical by the Owner's Representative, shall be considered to have float. The float is the time between the scheduled completion of the work and Contract completion date. In this case and others, float is a resource available to both the Owner's Representative and the Contractor.

5. The Contractor's Progress Schedule shall be formulated with written allowance for adverse weather

conditions normally anticipated. The Contract time has been predicated assuming a normal amount of adverse weather. The weather days will be calculated utilizing NOAA data for the local area and will be based on a ten (10) year average for the number of days per month for which rainfall is greater than ½ of one (1") inch. The Contractor will provide copies of the NOAA data and the summation of the number of weather days per month to the Owner's Representative with the CPM Schedule. The weather days shall be shown on the Schedule and if not used will become float at the end of the Project Schedule. No less than twenty-two (22) calendar days will be allotted for each winter weather period which is defined as the months of October, November, December, January, February and March. A total of twenty-two (22) days are to be included if the start or completion occurs any time within the defined inclement weather period.

6. The Contractor will provide the following activities for completion of the Project specifically on the critical path:

    a. Checkout and performance testing of all mechanical/electrical systems and equipment for not less than ten (10) work days.

    b. Checkout and testing of access controls, security controls, intrusion system, P.A. system, etc., not less than ten (10) days.

    c. Checkout and testing of fire protection system with the Fire Marshal for not less than four (4) work days.

    d. Training on mechanical, electrical and security systems equipment not less than five (5) workdays.

    e. Not less than 21 calendar days will be allocated for each O&M submittal review. Accepted O&M Shall precede training sessions.

    f. Cleanup of not less than five (5) calendar days.

    g. Preparation of Punchlist five (5) calendar days for substantial completion.

    h. Correction of Punchlist items for not less than ten (10) calendar days.

7. No more than fifteen (15%) percent of the activities shall be critical or near critical. Near critical is defined as float in the range of one to ten (1-10) work days.

8. The Contractor will provide the necessary crews and manpower to meet the schedule requirements for constructing all facilities within the Contract duration. The Contractor will provide manpower and crewing calculations to support the critical path front.

9. The Contractor will provide all submittals on the Schedule.

B. The Progress Schedule shall clearly show the sequence and interdependence of construction activities and shall specifically indicate:

1. The start and completion of all items of work, their major components, and interim milestone completion dates.

2. Activities for procurement, delivery, installation, and completion of each major piece of equipment, materials, and other supplies, including:

    a. Time for submittals, resubmittals, and review.

    b. Time for fabrication and delivery of manufactured products for the work.

    c. The interdependence of procurement and construction activities.

3. Activities for maintaining Project Record Documents.

C. The Schedule Shall:

1. Be in sufficient detail to assure adequate planning and execution of the work. Activities should generally range in duration from three to ten (3 to 10) calendar days each.

2. Be suitable, in the judgment of the Owner's Representative, to allow monitoring and evaluation of progress in the performance of the work.

3. Show detailed subcontractor work activities. In addition, the Contractor will provide copies of the subcontractor's schedules and/or bid data, and manpower/equipment upon which the CPM was built. Each major subcontractor will submit on his letterhead a statement certifying he/she has concurred with the General Contractor's CPM and that his/her related subcontractors' schedules and/or data have been incorporated, including the activity duration and cost and manpower loading.

4. Be calendar time-scaled in the form of an activities-on-arrow network diagram.

   a. The activities shall include:

      1. Description: what is to be accomplished and where.

      2. Calendar day duration.

      3. Responsibility code: identifies who performs the activity. One (1) per activity, identified by subcontractor.

      4. The dollar value of each activity on the Schedule for cash flow and payment purposes (cost loading). The total of activity costs shall equal the Contract amount and be in conformance with the bid proposal and Schedule of Values, Section 01370.

      5. The total quantity of manpower (in terms of man days) assigned to each activity.

      6. The total number of full-time workers assigned to work on each activity (man loading).

   b. The network shall show continuous flow from left to right. Constraints will not be allowed without the Owner's Representative's prior approval.

      1. Identify days per week and shifts per day worked.

      2. Include time for the Owner's Representative/Architect to review submittals or observe the work.

      3. Identify the activities which constitute the controlling operations or critical path.

D. All Schedule submittals shall include one (1) 11"x17" size copy of each of the required CPM Drawing(s). Additionally, submit a complete computerized CPM Progress Schedule on data disk(s) in a format which can be read into other computerized scheduling packages. Data disks containing the Contractor's Schedule shall be readable by a PC compatible with a CD Rom drive. Costs for preparation and reproduction of all Schedule submittals shall be paid for by the Contractor.

E. Submittal of the Progress Schedule shall be understood to be the Contractor's representation that:

   1. Schedule meets the requirements of the Contract Documents and that work will be executed in the sequence indicated on the Schedule.

   2. Contractor shall distribute Progress Schedule to subcontractors for review and acceptance which will be noted on the subcontractor's letterhead to the General Contractor and transmitted to the Owner's Representative for the record.

1.4 SUBMITTALS

A. The Contractor shall provide a copy of his/her Pre-bid Schedule with the along with the preliminary CPM Schedule within five (5) days after Notice to Proceed.

B. Within five (5) days after the Notice to Proceed, provide to the Owner's Representative for review copies of the Preliminary Construction Schedule sufficiently complete in detail so as to indicate sequence of operations and durations of construction for the first four weeks.

C. The Preliminary Schedule will be reviewed by the Owner's Representative. The Contractor shall modify the Preliminary Schedule, when requested by the Owner's Representative, and resubmit the Schedule for

approval. Approval of the Preliminary Schedule if based on less time than the maximum time allowed does not serve to change the specified time of completion, nor serve as a waiver of the Contractor's nor the Owner's right to the full amount of time specified as the time of completion, unless the time of completion is changed by a formal Change Order to this Contract.

D. Within fifteen (15) days after the Notice to Proceed, provide to the Owner's Representative the CPM Program Schedule with preliminary cost loading covering the first ninety (90) days sufficiently complete in detail so as to indicate sequence of operation and duration of construction. Review will be as in Point C above.

E. Within thirty (30) days after Notice to Proceed, the Contractor shall provide to the Owner's Representative copies of a complete computer cost and man-loaded construction schedule consisting of required functions or activities, tabulation of activities, and critical path. A Project calendar shall also be submitted. No payments will be considered without this submittal.

F. Not later than the twenty-fifth (25^{th}) day of each month thereafter during duration of the Project, Contractor shall provide the Owner's Representative with copies of an updated Schedule showing work progress. Submittal of the updated Schedule shall be attached with the Request for Payment and will be a condition of monthly payment.

END OF SECTION

SECTION 01340

SUBMITTALS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This Section describes the requirements for the deferred approval and submission of a Submittal Schedule, Shop Drawings, calculations, product data, samples, Certificates of Compliance, and other items as specified. This will supersede the General Conditions. Submittal shall be made to the Owner's Representative for review by the Architect. Other miscellaneous submittal include, but are not limited to, bonds, warranties, guarantees, maintenance agreements, project photographs, survey data and reports, quality testing and certifications, copies of industry standards (if requested), record drawings, operating and maintenance manuals and materials, engineer's calculations, and keys.

B. Related work not included in this section:

1. Specific section reference requiring submittal. Make submittal only where specifically required.

2. Requirements of other types of submittal including, but not necessarily limited to, test reports, operating instructions, maintenance data, and maintenance materials.

C. In preparing the Submittals, consider the nature and complexity of each submittal item and allow ample time for review, revision, correction, resubmittal, and approval sufficiently in advance of the construction requirements.

1. Allow at least fifteen (15) calendar days for review by the Owner’s Representative for each Submittal or resubmittal.

2. Allow at least thirty (30) calendar days for review of complex Submittals and resubmittals which require review by both the Architect and his consultants.

3. No claim for delay will be granted to the Contractor when the delay is caused by his/her failure to make Submittal in a timely manner and in accordance with the accepted Submittal Schedule.

4. Allow adequate time beyond the required review time for processing and distribution of each Submittal or resubmittal.

D. Schedule Submittal in sequence with the Schedule for work except as required for deferred approval products known to require long lead time. For submittal of items requiring long lead time, submit written verification of the required lead time from the supplier.

E. All substitutions will be submitted and approved prior to Submittal.

1.2 SUBMITTAL NUMBERING SYSTEM

A. Submittals shall be numbered in consecutive ascending order. Resubmittals shall be followed by a subscript "a", "b", "c", etc., as necessary for resubmission. For example, the first Submittal shall be "001". The first resubmittal of "001" shall be "001a". The Contractor shall keep each Submittal and resubmittal intact with the original number and will not add new drawings or information outside the scope of the original Submittal, nor will the Contractor provide a new number for a resubmittal. Submittal will be returned to the Contractor without review if incorrectly numbered.

1.3 SHOP DRAWINGS

A. Submit to the Owner's Representative at least five (5) copies of blueline or blackline prints plus one (1)

reproducible paper or mylar of each shop drawing. Only the repoducable will be returned to the Contractor. After completion of checking, the Owner's Representative will obtain prints of the transparency for his/her record and will return transparency to the Contractor. The Owner's Representative will forward only the reproducible to the Contractor. Shop Drawings shall be new drawings prepared by the Contractor responsible for his/her respective work, and not reproduced from the Architect's drawings and no exceptions will be made.

1. The sheet size of shop drawings shall not exceed 36" x 42".

2. Each Shop Drawing shall have blank spaces large enough to accept 4" x 10" review stamps of the Contractor, the Architect, or the Architect's consultants.

3. Shop Drawings shall include plans, sections, and details including complete information for making connections with other work and any other information necessary to adequately describe the unit of work.

4. Materials and finishes shall be clearly identified and, where applicable, Specification Section numbers shall be included as reference.

5. Identify details by reference to sheet and detail numbers shown on the Contract Documents.

6. Identify applicable standards, such as ASTM numbers or Federal Specification numbers, on the drawings.

7. Identify deviations from the Contract Documents by clouding and the words "CONTRACT DEVIATION" in boldface type.

8. Shop Drawings shall be drawn to a minimum scale of 1/8 inch equals one (1') foot, showing all equipment; with Mechanical and Electrical rooms to a minimum scale of 1/4 inch equals one (1') foot, showing all equipment, ductwork, and piping to be installed under the Mechanical sections. For critical areas, provide section drawings to a minimum scale of 1/4 inch equals one (1') foot. Layouts shall show clearances of piping, ducts, etc., above floor.

1.4 CALCULATIONS

A. Where calculations are required by the Specifications, they shall be prepared by a registered professional engineer, licensed in the State of California, who shall sign and stamp each copy of the Submittal prior to submission to the Owner's Representative.

B. Submit five (5) copies of required calculations for the record only. The Owner's Representative will not be responsible for checking calculations in detail.

C. Indicate all formulae and criteria used in the preparation of calculations.

D. Submit calculations in 8-1/2" x 11" sheets only with the following information on each sheet:

1. The name and address of the engineer.

2. The license number, stamp, and signature of the engineer.

3. The project name and address.

4. The Contractor's name and address.

1.5 PRODUCT DATA

A. Product Data shall permit the Owner's representative to determine which materials, equipment, and systems will be accepted in the Project and shall consist of brochures, catalog cuts, or other data sufficient to clearly identify subject items, optional features to be utilized, performance characteristics, limitations, capacities, schedules, complete engineering information, physical dimensions, conformance with standards, codes, fire ratings, acoustical ratings, appearance characteristics, and any other pertinent data to identify it as either item specified or an equal to that specified. Statements such as "as specified" will not suffice.

B. Submit seven (7) copies of manufacturers' catalog cuts, brochures, diagrams, schedules, performance charts, illustrations, and other descriptive data as required by the Specification Sections. When manufacturer's

printed literature is required to be submitted, it shall be submitted in original form. Heat transfer or other impermanent reproduction method or fading type of reproduction will not be accepted. Make one (1) coordinated Submittal for each unit of work or system. Two (2) copies will be returned to the Contractor and one (1) copy to the Owner's Representative.

C. Mark the manufacturer's data to clearly indicate the items to be included as a part of the work. Product data submitted with multiple items and no clear indication as to which item is to be used in the work will be returned to the Contractor without being reviewed.

D. Submit manufacturer's standard printed recommendations for application and use. Supplement standard information to provide additional information applicable to the Project.

E. Include dimensions and clearances required. Indicate field dimensions which have been checked and verified.

F. Show performance characteristics and capacities.

G. Show wiring diagrams and controls.

H. Review product data prior to submission to the Architect. Stamp and sign each Submittal to indicate that the Contractor has reviewed the Submittal for compliance with the Drawings and Specifications.

I. Identify deviations from the Contract Documents by clouding and the words "CONTRACT DEVIATION" in boldface print.

1.6 SAMPLES

A. Review of Samples shall permit the Owner's Representative to physically verify conformance of materials, products, fixtures, or devices with Contract Documents either by inspection and to select textures, colors, or other characteristics as stipulated in the Contract Documents.

1. Review of Samples will be only for characteristics or uses named in such review and shall not be taken to change or modify any Contract requirement except as specifically authorized or requested by the Owner's Representative.

2. Samples shall set standards for items or characteristics of which samples are representative; after sample has been reviewed, no further change in brand, make, or quality will be permitted.

B. Submit four (4) samples as specified. Unless otherwise specified, samples shall be sufficient size and quantity to clearly indicate:

1. Functional characteristics of the product or material, with integrally related parts and attachment devices.

2. Full range of color samples.

1.7 CONTRACTOR'S RESPONSIBILITIES

A. Maintain a log of Submittals showing the Submittal number, description, Specification Section, schedule Submittal date, date to the Owner's Representative, requested due date, date received from Owner's Representative, Submittal review action code, and comments. The Contractor shall submit a current copy of the submittal log each month.

B. Do not submit drawings, samples, or data for products that have not been specified unless such products have been formally approved as a substitute in accordance with Section 01660 - Substitutions.

C. Begin no work which requires Submittal until such Submittal have been reviewed by the Architect/Engineer and returned to the Contractor with the Architect/Engineer's stamp and initials.

D. The Contractor will notify the Owner's Representative immediately if he/she considers any comments, notations, instructions, notes, etc., applied to the Submittal by the Owner's Representative to be a change to the Contract requirements. The Contractor will initiate an RFI (Request for Information) identifying the Scope of Work which they consider to be a change to the Contract requirements. The RFI will be submitted in

accordance with the RFI processing requirements contained within the Specifications. Failure of the Contractor to issue an RFI within seven (7) days upon receipt of the Submittal will waive the Contractor's right to a Change Order.

E. Submittal "Approved as Noted" will not be resubmitted. The Owner's representative approved or reviewed as noted items will be incorporated in the record drawings.

1.8 REVIEW BY THE OWNER'S REPRESENTATIVE/ARCHITECT/ENGINEER

A. Review Submittal within time frames of 1.1C for design concept and compliance with the Contract Documents.

B. The Owner’s Representative/Architect/Engineer review of the Shop Drawings will be for general conformance with design conditions only and will not relieve the Contractor of his/her responsibility for quantity, fit, dimensions, coordination, and full compliance with all of the Contract Documents.

C. The Owner’s Representative/Architect/Engineer reserves the right to reject Submittal which, in his/her opinion, are incomplete and/or lack sufficient information to enable him/her to accomplish a thorough review.

D. The Owner’s Representative/Architect/Engineer may reject resubmittals which do not clearly indicate where revisions have been made to the original Submittal.

E. The Owner’s Representative/Architect/Engineer will reject Submittal for products which have not been specified unless such products have been formally approved as acceptable substitutes in accordance with Section 01660 - Substitutions.

F. The Owner’s Representative/Architect/Engineer review of the Submittal shall not be construed as approving departures from the Contract requirements.

G. The Owner’s Representative/Architect/Engineer review of separate items does not constitute review of an assembly in which the item functions.

H. Indicate action, stamp and initial the Submittal certifying review.

I. Retain one (1) copy for the Owner’s Representative file and one (1) copy for each major consultant who has reviewed the Submittal.

J. Return Submittal via the Owner's Representative to the Contractor for distributions.

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END OF SECTION

SAN JOAQUIN COUNTY GENERAL SERVICES DEPARTMENT-CAPITAL PROJECTS
PUBLIC HEALTH SERVICES BIO-SAFETY LEVEL 3 MODULAR LABORATORY SITE PREPARATION PROJECT
SUBMITTAL TRANSMITTAL

Submittal #_____ Page ____ of _____

CONTRACTOR:_____ SPECIFICATION SECTION:_____

SUBCONTRACTOR/SUPPLIER:_____ DRAWING REFERENCE:_____

TRANSMITTAL RECORD	ATTN:	DATE SENT	DATE REC'D	DATE DUE	REPRO.	PRINT	SAMPLE	MFG. LT.	REC'D BY (INT)
CONTRACTOR TO PM									
PM TO ARCH/ENGR.									
ARCH/PM TO CONSULTANT									
CONSULTANT TO ARCH/ENGR.									
ARCH/ENGR. TO PM									
PM TO CONTRACTOR									

REVIEW ACTION CODE:
1. Reviewed/No Exceptions Taken
2. Make Corrections noted
3. Revise as noted and resubmit
4. Incomplete Submittal, Resubmit
5. Rejected/Resubmit as specified

1	2	3	4	5	DWG/ITEM	DATED	DESCRIPTION

GENERAL SERVICES DEPARTMENT-CAPITAL PROJECTS REMARKS	ARCH/ENGR. REMARKS:

NOTE: Notations do not authorize changes to Contract sum or time. If you are authorized to proceed with the work identified in this Submittal, it is assumed that no change in the Contract amount or completion date is required. If a change in the work affecting your Contract amount or completion date is involved, notify the PM immediately.

SECTION 01370

SCHEDULE OF VALUES

PART 1-GENERAL

1.1 Work included: Provide a detailed breakdown of the agreed Contract Sum showing values allocated to each of the various parts of the Work, as specified herein and in other provisions of the Contract Documents.

A. Related Provisions Elsewhere:

1. Payment (Section 01150)

2. Schedule (Section 01310)

1.2 Requirements

A. Use Excel spread sheet (Office 97 or newer).

B. Supply Schedule of Values on disk and on paper.

C. When so required by the Owner's Representative, provide copies of the subcontracts or other data acceptable to the Owner's Representative, substantiating the sums described.

D. Prior to final schedule submittal or first application for payment and within twenty (20) days of Notice to Proceed, submit a proposed Schedule of Values to the Owner's Representative.

1. Meet with the Owner's Representative and determine additional data, if any, is required to be submitted.

2. Secure the Owner's Representative's approval of the Schedule of Values prior to final schedule submittal or submitting first application for payment.

END OF SECTION

SECTION 01400

QUALITY CONTROL

PART 1 - GENERAL

1.1 DESCRIPTION

A. This Section describes the requirements for Quality Control.

1.2 DUTIES AND RESPONSIBILITIES OF OWNER'S REPRESENTATIVE

A. The Owner's Representative and the Owner have the right, but not the duty, to monitor and inspect all work performed by the Contractor to insure performance of the work to the Contract Documents and Specifications. All work shall be subject to inspection and test by the Owner's Representative and the Owner at all reasonable times and at all places prior to acceptance. Any such inspection and test is for the sole benefit of the Owner and shall not relieve the Contractor of responsibility for providing Quality Control measures to assure that the work strictly complies with the Contract requirements. No inspection or test by the Owner or Owner's Representative shall be construed as constituting or implying acceptance.

1.3 CONTRACTOR'S DUTIES AND RESPONSIBILITIES

A. The Contractor is responsible for the quality of the work performed under this Contract as well as the quality of the material, equipment, and supplies furnished by him/her to be incorporated into the work.

B. The Contractor shall designate a Quality Control Representative who will be on site at all times while the respective Contractor's work is in progress and will have the authority and responsibility to accept or reject items of work. The Contractor's Quality Control Representative may delegate his/her duties but the primary responsibility and authority rest with him/her.

C. The Contractor's Quality Control Representative shall coordinate the submittal of all shop drawings, product data, and samples to the Owner's Representative. Any submittal that is a change to the Contract requirements shall be identified as such and transmitted to the Owner's Representative. No work requiring submittal of a shop drawing, product data, or sample shall be commenced until the submittal has been reviewed and accepted by the Owner's Representative.

D. The Contractor shall cooperate with an approved material testing laboratory to perform testing of materials as required by the Contract Drawings and Specifications, or the Owner's Representative. The Contractor shall provide a one (1) working day; (two (2) working day for nights, weekends, and holidays) notice when testing/inspection are required. The Contractor will request all tests and inspections in accordance with the Specifications and the Owner's Representative's request and approval for testing services procedures. The Contractor will utilize the form supplied by the Owner's Representative for requesting tests and inspections. The Contractor will not contact the testing firms directly without going through the Owner's Representative.

E. The Contractor's Quality Control Representative shall review his/her drawings, procurement documents, and Contracts to insure that the technical information provided and all work performed is in accordance with the latest revisions of the Contract Drawings and Specifications.

F. The Contractor's Quality Control Representative shall perform an inspection upon receipt at the site of all materials, equipment, and supplies. Items which are damaged or not in conformance with the respective submittals, quality standards, Contract Drawings and Specifications will be identified and segregated from accepted items. Items thus identified shall not be incorporated into the work until corrective action acceptable to the Owner's Representative/Owner is completed. Items determined unsalvageable will be removed from the jobsite.

G. The Contractor will establish a performance testing plan for all equipment and systems for mechanical, electrical, plumbing, heating or air conditioning, security, communications and hardware. The testing plan will include test and report forms for each type of application and will be approved by the Owner's Representative. The performance testing of each equipment and system will be documented and approved by the Owner's Representative. Copies of the approved performance tests will be required for project closeout as required by Section 01700-Project Closeout and by Section 01730-Operation and Maintenance Data/Training.

H. The Contractor's Quality Control Representative and subcontractors will attend a weekly QC Meeting. The Contractor will provide a list of current controlling activities for that week and bring an outlined Specification Section to the meeting noting areas applicable for inspection/testing for the controlling activities.

I. All requests for testing will be provided for the current week and all Notices of Non-Compliance will be reviewed.

J. The Contractor will provide copies of his Quality Control Inspection Reports each day. Format of the report will be approved by the Owner's Representative.

1.4 INSPECTION AND TESTING

A. The Contractor is responsible to different authorities for the elements of work concerned (Note that this list may not be inclusive):

1. San Joaquin County General Services Department-Capital Projects is the Owner's Representative and will have general Quality Assurance duties.

2. The San Joaquin County Community Development Building Department will have all other code enforcement duties.

3. There will be code required specialty inspections. Fees and responsibilities are covered in relevant Specification Sections.

B. Should the Contractor fail to correct work in a reasonable time, the Owner's Representative will issue a Notice of Non-Compliance. This is a two (2) part notice/reply form. The Owner's Representative will specify the non-compliant item on Part One (1) and the Contractor shall respond on Part Two (2) indicating the fix once it has been accomplished. The Contractor will maintain a log of all Notices of Non-Compliance which shall contain the following information: Notice number, description, specification section, date issued, date response from the Contractor, date corrected, number of days to correct, and remarks. The Contractor will present a copy of this log at the weekly meetings and shall keep it currently updated. Upon compliance with the Notice of Non-Compliance, the Owner's Representative will officially notify the Contractor of the release of Notice on Non-Compliance.

C. Operation and Check-out Testing: The Contractor shall provide personnel and equipment to perform the operational tests and checkout of the equipment, facilities, or equipment constructed, fabricated, or installed under this Contract. **The Owner's Representative will coordinate and witness all such tests, at final project location, in California.** Inspection request will be made forty eight (48) hours in advance of the scheduled tests. Refer also to requirements for operating and maintenance data and training specified in Section 01730.

D. Substantial and Final Inspection: The Owner's Representative will coordinate all final inspections of the work. Requests for finalizing portions of the work performed under this Contract shall be made to the Owner's Representative at least fifteen (15) days in advance of the inspection. Prior to requesting a substantial completion inspection, all tests of the equipment and systems and training shall be completed. Refer to Section 01700 for detailed requirements for substantial completion and final completion inspections for Project Closeout. The Contractor will be provided with a punchlist from the Owner indicating items over and above those shown on the Contractor's punchlist. The Owner will only provide two (2) inspections: substantial completion and final completion. Others will be at the Contractor's expense. The Owner will provide a hand-written punchlist to the Contractor. The Contractor will enter and maintain a computerized punchlist based on the Owner's punchlist in a format approved by the Owner's Representative. The Contractor will provide the Owner's Representative with one (1) copy, paper and electronic (Excel), of the computerized list within five (5) working days upon receipt of the Owner's list and update it on a weekly basis.

E. The Contractor will at each weekly meeting during the closeout period provide an annotated punchlist indicating those items which have been completed and are ready for inspection. The Contractor will maintain and keep this list current and provide a copy to the Owner's Representative each week until all items are complete. Prior to the request for substantial completion and throughout the life of the Project, the Contractor will maintain a Testing and Inspection Schedule. This Schedule will be provided at each weekly meeting indicating the tests or inspections which will be required during the following week. Based on this Schedule, the Contractor will provide the Required Request for Testing forms.

1.5 VERIFICATION OF TEST REPORTS

A. The Testing Laboratory will submit a report in duplicate covering all of the tests which are done during the progress of the Project. Such report shall be furnished each time that Work on the Project is performed, covering the tests up to that time, and at the completion of the Project, covering all tests.

1.6 OWNER'S INSPECTORS

A. Inspectors employed by the Owner in accordance with the requirements referenced in these specifications, will be assigned to the Work. Their duties are specifically defined in California Buildings Code chapter seventeen A (17A), and section seven (7) of Title 24, Part 1 of the California Building Standard Code.

B. The work of site preparation and modular installation, in all stages of progress, will be subject to the personal, continuous observation of the Inspector. He/she shall have free access to any and all parts of the Work at any time. Furnish the Inspector reasonable facilities for obtaining such information as necessary to keep him/her fully informed regarding the progress and manner of the Work and the character of the materials. Inspection of the Work shall not relieve the Contractor from any obligation to fulfill this Contract.

1.7 SPECIFIC TESTS AND INSPECTIONS

A. Applicable tests and inspections may be required to the extent that the Work represented thereby is required by the Contract. The testing and inspection requirements are stipulated in each particular Specification Section addressing the corresponding work.

END OF SECTION

REQUEST FOR INSPECTION
PUBLIC HEALTH SERVICES
BIO-SAFETY LEVEL 3 MODULAR LABORATORY SITE PREPARATION PROJECT

This section to be completed by the Contractor:

I have personally checked for compliance with Contract Documents and certify this to be ready for inspection.

CONTRACTOR'S SIGNATURE:_____ **DATE:**_____

	TYPE OF TEST OR INSPECTION	LOCATION	TIME & DESIRED DATE	RESULTS	DATE
1					
2					
3					
4					

This section to be completed by the Special Inspector:

INSPECTION AGENCY:_____
PRINT

- ❑ To the best of my knowledge the work is in conformance with the approved plans and specifications.
- ❑ Work is non-conforming. See Below.

SIGNATURE:_____ **DATE:**_____
SPECIAL INSPECTOR

COMMENTS:_____

_____

_____

_____

APPROVED	TOTAL HOURS:

NOTE: BILLINGS WILL NOT BE APPROVED FOR ANY SERVICES W/O HOURS & SIGNATURES

SECTION 01410

TESTING

PART 1 - GENERAL

1.1 DESCRIPTION

A. This Section summarizes which tests and inspections will be performed by the Contractor. Contractor shall be responsible for providing and paying for third party Special Inspections. The detailed tests and inspections required to be performed by the Contractor may be found in the individual Sections of Divisions 2 through 16 of these Specifications.

1.2 OWNER'S TESTING AGENCY

A. For the purpose of meeting A/E and County requirements the Contractor will employ and pay a testing agency, identified in the various Specification Sections as "the Contractor's Testing Agency" and "Contractor's Soils Engineer" to perform tests, inspections, and sampling of the following work after start of construction:

1. Earthwork.

2. Concrete, reinforcement, ingredients and quality control.

3. Asphaltic Concrete

B. The Contractor's employment of the testing agency shall in no way relieve the Contractor of his obligations to perform the work in accordance with Contract requirements nor to retain their own testing firm for Quality Control.

C. The Owner will back-charge the Contractor for costs incurred in the event the Contractor's poor Quality Control of any material requires excessive repeated testing by the Owner's Testing Agency.

1.3 QUALITY ASSURANCE

A. Qualifications of Testing Agents: Agencies, bureaus, or laboratories shall be acceptable to the Owner's Representative.

B. Failure of Materials and Equipment Tested or Inspected:

1. The Contractor shall be charged for retesting and reinspection resulting from the Contractor's noncompliance with the Contract as evidenced by tests and inspections by the Owner's Testing Agency.

2. Previous acceptance may be withdrawn and material of which tested samples are representative or equipment may be subject to removal and replacement by the Contractor at his/her expense with material or equipment meeting Specification requirements.

3. The Owner's Representative may refuse consideration of further samples of same brand or make for testing.

4. At the Owner's discretion, defective material and equipment may be permitted to remain in place subject to adjustment of Contract price.

1.4 TESTING AGENCY'S DUTIES

A. Cooperate with Owner's Representative and the Contractor. Provide qualified personnel promptly upon notice.

B. Perform required inspecting, sampling, and testing of materials and methods of construction.

1. Comply with specified standards, other recognized authorities as specified.

2. Check for compliance with Contract Documents.

C. Promptly notify the Owner's Representative and the Contractor of observed irregularities or deficiencies in the work.

D. Promptly submit reports to the following:

1. One (1) copy each to the Contractor's office

2. One (1) copy to the Owner's Representative.

3. One (1) copy to the Architect.

4. One (1) copy to the appropriate Engineer.

5. One (1) copy to San Joaquin County Community Development Department.

E. Reports shall include the date issued and date of test, Project title and number, testing agency's name and address, name and signature of inspector, date of inspection or sampling, record of temperature and weather, identification of product and Specification Section, location in project, type of inspection or test, reference to applicable standards and codes and observation regarding compliance with Contract Documents.

F. Perform additional services as required by the Owner.

G. The testing agency is not authorized to release, revoke, alter, or enlarge on the requirements of the Contract Documents, approve or accept any portion of the work, and perform any of the Contractor's duties.

1.5 CONTRACTOR'S RESPONSIBILITIES

A. Initiate and coordinate tests and inspections required by Contract Documents and public authorities having jurisdiction of the work.

B. Notify the Contractor's Testing Agency through the Owner's Representative a sufficient time in advance (but no less than five (5) days) of the manufacture of materials to be supplied which, by requirements of the Contract Documents, must be tested at the source of supply so that the Laboratory may arrange for testing. Request on site testing twenty-four (24) hours in advance through General Services Department-Capital Projects (Forty-eight (48) hours for weekends or nights).

C. When changes of construction schedule are necessary during construction coordinate all such changes with the Contractor's Testing Agency as required.

D. When the Contractor's Testing Agency is ready to test according to the established schedule, but is prevented from testing or taking specimens due to incompleteness of the work, all extra charges for testing attributable to the delay may be back-charged to the Contractor and shall not be borne by the Owner.

E. Provide access, facilities, tools, and labor necessary for duties to be performed at the site by Contractor's Testing Agency and Inspector including furnishing ladders, hoisting, lighting, water supply, and like services.

F. Completed Work: Should the Owner require tests and inspections for work completed before final acceptance of entire work, furnish necessary facilities, labor, and materials to uncover or remove work in question to extent necessary.

1. If such work is found defective due to fault of the Contractor, the Contractor shall defray expense of removal, test, and inspections, and satisfactory reconstruction. Time extension may not be granted.

2. If such work is found to conform to requirements of the Contract, the Contractor shall be reimbursed by the Owner for facilities, labor, and materials required for removal, and costs of satisfactory reconstruction in accordance with Contract amounts for extra work. Reasonable time extension shall be granted.

G. Furnish and deliver samples of materials to be tested at no extra cost to County. Test samples will be selected by the Inspector or Contractor's Testing Agency and not by the Owner.

H. Reports:

1. Furnish copies of each test and inspection report (if provided per Section 01410.1.9), signed and certified by the Contractor's Testing Agency supervising engineer as follows:

   a. Owner's Representative: one copy.

   b. Architect: one copy.

   c. Engineer one copy

   d. Contractor: As required.

2. Promptly process and distribute required copies of test reports and related instructions to assure necessary retesting and replacement of materials with the least possible delay in progress of the work.

3. The reports shall include detailed information relative to progress and condition of work including variances from the Contract Documents, and stipulating dates, hours and locations of the tests and inspections, as applicable.

I. Records:

1. Maintain correct records on an appropriate form for all inspections and tests performed, instructions received from the County or testing agency, and actions taken as a result of those instructions.

2. These records shall include evidence that the required inspections or tests have been performed (including type and number of inspections or tests, nature of defects, causes for rejections, etc.), proposed or directed remedial action, and corrective action taken.

3. Document inspections and tests as required by each Section of the Specifications.

J. If laws, ordinances, rules, regulations, or orders of public agency having jurisdiction require work to be inspected, tested, or approved by some authority other than the County or Contractor, the Contractor shall give required notices and make arrangements, deliver to the County the certificates of inspections, test, or approval of such public agency, and pay costs therefore unless otherwise provided in the Contact Documents.

1.6 TEST PROCEDURES

A. Testing:

1. Contractor's testing agency will perform tests according to method(s) of test specified in these Specifications.

2. If no procedure or test method is specified, testing shall conform to material specification references unless otherwise directed by the Owner.

3. The Contractor's testing agency will tag, seal, label, record, or otherwise suitably identify the materials for testing. No materials shall be used in the work until the test reports are submitted and approved, excepting only the materials specified to be placed or installed prior to testing.

B. Retesting:

1. Repeat applicable tests at specified intervals, when:

   a. The source of supply is changed.

   b. The characteristics of the materials change or vary.

   c. Unsatisfactory test results are received.

2. Quantity and nature of additional testing, if required, will be determined by the Owner.

3. Additional tests shall be taken in the presence of the Owner's Engineer.

4. Proof of non-compliance will make the Contractor liable for any corrective action which the Owner feels is prudent, including complete removal and replacement of defective materials.

5. Nothing contained herein is intended to imply that the Contractor does not have the right to have tests performed on any material at any time for his/her own information and job control so long as the Owner does not assume responsibility for costs or for giving them consideration when appraising quality of materials.

1.7 PAYMENT FOR TESTING

A. Initial Services:

1. The Contractor will pay for initial testing services requested by the Owner.

2. When initial tests indicate non-compliance with the Contract Documents, the costs of initial tests associated with that non-compliance will be deducted by the Owner from the Contract Sum.

B. When initial tests indicate non-compliance with the Contract Documents, subsequent retesting occasioned by the non-compliance shall be performed by the same testing agency, and costs thereof will be deducted by the Owner from the Contract Sum.

C. Reimburse the Owner all or any part, as the Owner may deem just and proper, of the inspection costs incurred by the Owner due to:

1. Failure of materials to pass initial tests.

2. Contractor's failure to complete the work within the Contract time and any previously authorized extensions thereof.

3. Claims between separate contractors.

4. Covering of work before the required inspections or tests are performed.

5. Additional inspections required for the Contractor's correction of defective work.

6. Overtime costs for acceleration of work done for Contractor's convenience.

1.8 CODE COMPLIANCE TESTING

A. Inspections and tests required by California codes or ordinances, or by a plan approval authority, and which are made by a legally constituted authority, shall be the responsibility of and shall be back-charged to the Contractor, unless otherwise provided in the Contract Documents.

1.9 CONTRACTOR'S CONVENIENCE TESTING

A. Inspecting and testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

1.10 REQUEST FOR TESTING PROCEDURES

A. Testing will be performed as ordered by the Owner's Representative. The Contractor will follow the Owner's Representative's procedures for requests for tests and inspections.

END OF SECTION

SECTION 01500

CONSTRUCTION FACILITIES & TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included in this Section: Provision, maintenance, and removal of facilities and controls required to execute work of this Project efficiently and successfully including, but not necessarily limited to, the following:

1.2 Utilities

1.3 Roads/Temporary Access

1.4 Construction Aids

1.5 Barriers and Enclosures

1.6 Security

1.7 Temporary Controls

1.8 Water Pollution Control

1.9 Clean-up

1.10 Project Identification

1.11 Field offices and sheds

1.12 Shoring and Underpinning

1.13 Traffic Control

B. Related Work Not Included in this Section:

1. Provision of protective measures described with respect to specific unit of work.
2. Provision of progressive and final cleaning.

1.2 UTILITIES-TEMPORARY & PERMANENT

A. General:

1. Contractor to furnish, install, pay for and maintain temporary utilities as required including power, water and phone service.
2. Materials, installation, and maintenance of temporary utilities shall be in compliance with applicable regulatory requirements.
3. Remove temporary utilities, including associated materials and equipment when no longer required unless otherwise directed by Owner's Representative. Restore and recondition areas of the site damaged by temporary utilities or their installation. Remove and properly dispose of debris resulting from removal and reconditioning operations.

B. Temporary Electric Power and Lighting:

1. Arrange as required to provide services required for Contractor's power. Distribute electric power and lighting as required for performance of the work. The Contractor will provide and maintain sufficient lighting to properly apply finishes and allow for accurate inspection by Owner's Representative.

2. Provide adequate lighting and convenience outlets in temporary structures and as otherwise required for the performance of the work. Do not use permanent lighting for construction operation.

C. Temporary Water:

1. Arrange with the utility company to provide water for construction purposes. Pay all costs for service and for water used. Contact utility company for specific requirements.

2. Install branch piping with taps located so that water for construction purposes is available throughout the work area by use of hoses.

3. If the Contractor uses water connected to the County/City system, the capacity will be limited in order not to affect the pressure and volume being utilized by existing Owner facilities.

D. Temporary Sanitary Facilities:

1. Provide approved temporary sanitary facilities and locate them on the site in locations approved by the Owner's Representative.

2. Regularly maintain the facilities in a neat, sanitary condition, adequately supplied.

3. Comply with CAL/OSHA 1526 as a minimum.

E. Temporary Fire Protection: Provide and maintain fire extinguishers, fire hoses, and other equipment necessary for proper fire protection during the progress of the work.

F. Quality Assurance:

1. Structural Engineer, Civil Engineer and Surveyor: Where required for engineering temporary facilities or aiding in construction, employ a structural engineer, civil engineer and surveyor licensed in the State of California.

2. Temporary Facilities: Adequate for the intended use and for the loads imposed without excessive settlement, deflection, or deformation. Parts shall be properly supported, wedged, and secured to prevent displacement or failure.

G. Temporary telephone service, is the responsibility of the Contractor and subcontractors. Arrange and pay for all service charges or additional line charges as required by the Contractors operation.

H. Temporary Weather Protection:

1. Provide and maintain adequate temperature weather protection for all exposed points of connection to the existing structure until protected by new weather tight construction.

2. Provide and maintain adequate temperature weather protection for permanent interior finishes during construction until protected by new weather tight construction.

1.3 TEMPORARY ACCESS

A. Maintain temporary lay down areas designated for Contractor trailers and equipment. Protect fencing from damage. Contractor shall restore or repair damaged road or parking areas and fencing resulting from his/her operations. Provide temporary access to all areas of the Project throughout all weather conditions.

B. Access: Maintain free and unimpeded access to and egress from site and the existing facilities at all times.

1. The Contractor's access to the construction area will be permitted only through designated approaches in such manner that traffic will not interfere with the Owner's activities.

2. Whenever interference with normal street and sidewalk traffic becomes necessary for proper and convenient performance of the Work, and no satisfactory detour route exists, before beginning the interference provide satisfactory detour, temporary bridge, or other proper facility for traffic to pass around or over interference, and maintain in satisfactory condition as long as interference continues. Owner's Representative's approval is required.

C. Grading: The Contractor will grade where necessary to provide temporary positive drainage and seal graded areas to prevent soil saturation in accordance with its approved storm water pollution control plan. The Contractor will protect all storm sewer lines from silty or polluted run-off.

D. Maintain existing paving and parking lots free of mud and construction debris.

1.4 CONSTRUCTION AIDS

A. Construction aids shall be in compliance with applicable regulatory requirements.

1. Install and maintain construction aids as required for the performance of the work.

2. Relocate construction aids as required by the progress of the work.

3. Remove construction aids when no longer required. Clean and repair damage caused by installation and use.

4. Restore permanent facilities used for temporary purposes to a condition satisfactory to the Owner's Representative.

B. Construction Hoists:

1. Furnish, operate, and maintain a complete facility for handling, conveying, installing, and erecting work and materials required under the Contract. Include hoists and conveyances for transporting workers and transporting and placing materials; debris chutes; and tools, appliances, power equipment, and other required items. Furnish, arrange, and set up the plant to facilitate the proper and timely performance of the work.

2. Maintain plant and equipment in safe operating condition. Repair damages due to the use of defective plant and equipment, at no increase in Contract Sum.

C. Scaffolds and Platforms:

1. Furnish, erect, and maintain scaffolds, guardrails, platforms, and similar temporary construction necessary for the performance of the work.

2. Connect the levels of the structure by means of suitable ladders, ramps, and temporary stairs, as necessary; permanent stairways may be used as specified. Enclose open wells and shafts.

D. Temporary Enclosures and Protection of Work in Place: Provide temporary, weathertight enclosures as required for acceptable working conditions, weather protection for interior materials, effective temporary heating, and to prevent entry of unauthorized persons.

1.5 BARRIERS AND ENCLOSURES

A. General:

1. Materials and construction shall be in compliance with applicable regulatory requirements.

2. Provide and maintain suitable temporary barriers as required to prevent public entry; protect the work and existing facilities, persons, and trees and plants from damage or injury from construction operations.

3. Should work and/or regulatory requirements necessitate construction of temporary barriers, barricades, or pedestrian walkways not indicated or specified, construct at no increase in Contract Sum. If required, paint such items in a color selected by the Owner's Representative at no cost to Owner.

4. Maintain temporary barriers in a structurally sound condition and neat appearance.

5. Relocate as required by progress of the work.

6. Restore and recondition site areas damaged or disturbed.

B. Barricades: Erect where required to prevent accidents and losses, and provide adequate warning lights.

C. Fences and Gates:

1. Construction site is to be securely fenced and gated during construction. With Owner's pre-approval, Utilize existing fencing if applicable. Maintain entrance and exit control so to keep members of the public and/or clients of the existing facility from the premises. Provide Owner's Representative with keys for padlocks.

D. Tree and Plant Protection: Provide adequate protection of existing landscaping against damage from construction operations. Employ methods at the Contractor's discretion.

1. Where barricades are necessary, make four (4') feet high and locate at or beyond drip lines of item so protected.

2. Especially protect roots, trunk, and foliage of existing and new shrubs and trees.

3. Do not permit following conditions:

a. Using trees as support posts, power poles, sign posts, or anchorage for ropes, guy wires, and power lines or other similar functions.

b. Poisoning items by disposing of paint, petroleum products, dirty water, or other deleterious materials on or around roots.

c. Burning of trash under or near shrubs or trees.

d. Compaction of root area by moving trucks, grading machine, storage of equipment, gravel, earth fill, supplies, etc.

e. Damage to trunk or limbs caused by maneuvering vehicles or stacking material and equipment too close to the item.

4. Compensation for Planting Loss: Any tree or shrub to remain, damaged or destroyed due to the Contractor's negligence or failure to provide adequate protection shall be compensated for in accordance with following schedule of values, using "tree caliper" method (greatest trunk diameter measured 30 inches above ground):

a. For trees or shrubs with diameters up to and including six (6") inches, the actual cost of replacement with item similar in species, size, and shape, including:

1. Actual out-of-ground cost for boxed item.

2. Transportation or delivery of boxed item to site.

3. Planting and staking.

4. Maintenance in watering, fertilizing, pruning, pest control, and other care to bring replacement to same general condition of original item.

b. For trunks up to:

1. 7 inches $1,000

2. 8 inches 1,400

3. 9 inches 1,800
4. 10 inches 2,200
5. 11 inches 2,600
6. 12 inches 3,000
7. 13 inches 3,400
8. 14 inches 3,800
9. 15 inches 4,200
10. 16 inches 4,600
11. 17 inches 5,000
12. 18 inches and over, add 500 for each caliper inch

1.6 SECURITY

A. Maintain temporary enclosure of partially completed construction areas to prevent unauthorized entrance, vandalism, and theft.

B. Secure temporary storage areas as required to prevent theft.

C. Be responsible for construction period security measures.

D. Project Inspector's Access: Provide the Owner's Project Inspector with keys necessary to gain access to locked areas of the Work. The Project Inspector will be responsible for such keys and will return them to the Contractor at the time of final inspection.

1.7 TEMPORARY CONTROLS

A. NOISE AND VIBRATION CONTROL:

1. Comply with all applicable state and local laws, ordinances, and regulations relative to noise control. Due to the close proximity of this work to within an existing public facility, equipment to be employed on this site shall not produce a noise level exceeding the following limits in Db(A) at a distance of fifty (50') feet from the equipment under test.

a. Earthmoving Equipment

Front loader	79
Backhoes	85
Dozers	80
Tractors	80
Scrapers	88
Graders	85
Truck	91
Paver	89

b. Materials Handling Equipment

Concrete Mixer	85
Concrete Pump	82
Crane	83
Derrick	88

c. Stationery Equipment

Pumps	76

Generators	78
Compressors	81

d. Impact Equipment

Pile Drivers	Not permitted
Jack Hammers	88
Rock Drills	98
Pneumatic Tools	86

e. Other Equipment

Saws	78
Vibrators	76

2. This equipment shall not be operated before 6:00 a.m. or after 5:00 P.M.

3. Equipment and impact tools shall have intake and exhaust mufflers.

4. Secure written permission from the Owner's Representative at least three (3) working days prior to using noisy and vibratory equipment, such as jack hammers, concrete saws, impact tools, and high-frequency electrical equipment.

5. Cooperate with Owner if the use of noisy equipment becomes objectionable.

6. Idling diesel engines shall be turned off.

B. Dust and Dirt Control:

1. Conduct construction operations to prevent windblown dust and dirt from interfering with the progress of the work, ongoing operations, and vehicular traffic. See Section 01562.

2. Periodically water construction area as required to minimize the generation of dust and dirt. Dust must be controlled to a level compliant with the Valley Joint Air Pollution Control District standards.

3. Hauling equipment and trucks carrying loads of soil and debris shall have their loads sprayed with water or covered with tarpaulins.

4. Prevent dust and dirt from accumulating on walks, roadways, parking areas and plantings, and from washing into sewer and storm drains.

5. Water for compaction and dust control:

a. Water for compaction and dust control shall be fresh, clean, and free from injurious amounts of oil, acid, and organic matter.

b. If the Contractor wishes to use reclaimed water for compaction and dust control purposes, a CCR Title 22 water quality analysis shall be submitted to the Owner. The Owner reserves the right to prohibit the use of reclaimed water.

c. If water is drawn from fire hydrants, back flow prevention, meters and usage accounts must be secured from water agency and all costs are to be paid by the Contractor.

d. If the Contractor elects to use chemical additives in water for compaction or dust control, it shall be at his/her sole expense. The Architect/Engineer reserves the right to prohibit the use of a particular type of additive.

e. The Contractor shall construct and install connections to water systems, air gap devices, back flow prevention devices, meters, storage tanks, truck fill risers, or other equipment as required by the utility company or as shown on the plans.

f. The Contractor shall pay for all costs in conjunction with connecting to the water system as well as utility company charges for water used.

g. The Contractor shall have at least one (1) mobile unit with a minimum capacity of 1,000 gallons available for applying water on the Project at all times.

h. The Owner's Representative has the right to require the Contractor to apply a dust palliative if, in the opinion of the Owner's Representative, the dust control plan in insufficient. The cost of application of dust palliative shall be at the Contractor's sole expense.

C. Water Control: Do not permit surface or subsurface water and other liquids to accumulate on or in areas adjacent to the Project site. Should such conditions be encountered or develop, control the water or other liquid, and suitably dispose of by means of temporary pumps, piping, drainage lines, troughs, ditches, dams or other Owner's Representative approved methods. Also reference "F" below.

D. Pollution Control:

1. No burning of refuse, debris, or other materials will be permitted on or in the vicinity of the Project site.

2. Comply with regulatory requirements and anti-pollution ordinances during the performance of construction and disposal operations, including the disposal of solid, liquid, and gaseous contaminants.

3. Reference Section 1.8 below.

E. Soil Disposal: Dispose of excess soil on site as directed by Owner's Representative. Excess soil may be stockpiled during construction for reuse as directed by the Owner.

F. Erosion Control: Erosion control shall consist of, but not be limited to, constructing such facilities and taking such measures as are necessary to prevent, control, and abate water, mud, and erosion damage to public and private property as a result of the construction of this Project, including the stockpiling of excavated material. Temporary erosion control measures included, but are not limited to the following:

1. The Contractor shall conduct his/her operations in such a manner that storm runoff will be contained within the project or channeled into the storm drain system which services the runoff area using Best Management Practices.

2. Temporary drainage structures and other devices shall be provided to channel storm runoff water into the respective permanent storm drainage systems during construction. Mud and silt shall be settled out of the storm runoff before said runoff enters the storm drainage system using Best Management Practices.

3. Embankment, graded and excavation areas shall be protected from erosion and the resulting siltation of downstream facilities and adjacent areas by use of temporary erosion control measures.

1.8 WATER POLLUTION CONTROL

All construction sites less than one acre and in National Pollutant Discharge Elimination System (NPDES) Phase 1 Area must comply with San Joaquin County's Small Site Storm Water Pollution Prevention Plan (SWPPP). This project is within the NPDES Phase 1 Area. Please review and evaluate the Small Site SWPPP located at the following Internet location:
http://www.sjcleanwater.org/PDF%20Documents/SJCO_small_site_SWPPP07_10.pdf

1.9 CLEANING AND PROTECTING

A. General: During handling and installation of work at Project site, clean and protect work in progress and adjoining work on a basis of perpetual maintenance. Apply suitable protective covering on newly installed work where reasonably required to ensure freedom from damage or deterioration at time of substantial completion; otherwise, clean and perform maintenance on newly installed work as frequently as necessary through remainder of construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

B. Limiting Exposures of Work: To extent possible through reasonable control and protection methods, supervise performance of work in a manner and by means which will ensure that none of the work whether completed or in progress, will be subjected to harmful, dangerous, damaging, or otherwise deleterious exposures during construction period. Such exposures include (where applicable, but not by way of limitation) static loading, dynamic loading, internal pressures, external pressures, high or low temperatures, thermal shock, high or low humidity, air contamination or pollution, water, solvents, chemicals, light, radiation, puncture, abrasion, heavy traffic, soiling, bacteria, insect infestation, combustion, electrical current, high-speed operation, improper lubrication, unusual wear, misuse, incompatible interface, destructive testing, misalignment, excessive weathering, unprotected storage, improper shipping/handling, theft, and vandalism.

1.10 PROJECT IDENTIFICATION AND SIGNS

A. Provide at least four (4) "Hard Hat Area" signs stating the danger of the construction project and stating that all unauthorized personnel must keep off the site. These signs shall be approximately 2 x 2 feet and shall consist of design, text, and colors as compliant with OSHA Regulations and made up of exterior grade plywood. Provide four (4) 2x2 foot signs designating "Construction Entrance" and/or "No Construction Vehicles".

1.11 CONTRACTOR FIELD OFFICES AND SHEDS

A. Contractor may provide a field office for housing of the Contractor's project manager or superintendent.

B. Furnish, install and maintain additional field offices and sheds as required.

C. Construct, install and maintain field offices and sheds in accordance with applicable regulatory requirements.

D. Construction shall be structurally sound, weathertight, with floors raised above the ground. Doors shall be sturdy and shall be provided with provisions for dead bolt locking, temperature transmission resistance compatible with occupancy and storage requirements, and painted as directed by the Owner's Representative.

E. Portable or mobile buildings complying with the specified requirements may be used.

F. Storage sheds:

1. Number and Sizes: Adequate for material storage and handling requirements.

2. Ventilation: Comply with specified and regulatory requirements for stored products.

3. Heating: Adequate to maintain temperatures specified in the Specification Sections for the products to be stored.

4. Lighting: As required to facilitate product handling and inspection.

G. Obtain Owner's Representative approval of locations for field offices and sheds prior to commencing site preparations for the structures.

H. Construct field offices and sheds on proper foundations, and provide connections and utility services.

I. Remove field offices and sheds from the site as soon as the progress of the work permits and as approved by the Owner's Representative. Remove foundations, steps, landings, and contents. Retain or remove utility services as directed by Owner's Representative, Grade and restore portions of the site occupied by the temporary structures to a condition acceptable to the Owner's Representative.

J. Maintain the telephone, electrical, water, and sanitary systems to the existing facilities at all times. Relocate the utility poles and other utility lines as necessary during construction to maintain construction work at no additional cost to the Owner.

K. Provide location, grading, utility distribution for Owner's Representatives trailer if required.

L. Maintain all utility distribution, structures, services, etc. for Phase II work if so directed.

1.12 SHORING AND UNDERPINNING

A. Provide temporary shoring, underpinning, or whatever other measures, including their structural engineering, necessary to prevent movement, settlement, or collapse of the Owner's or adjacent property.

B. Determine methods and procedures to be used, construct and maintain such measures, and be fully responsible for both their design and execution to the extent of making good damage caused by neglect or failure of these measures.

C. Employ a Structural Engineer licensed in the State of California, and pay costs of engineering design and inspection of shoring, underpinning, and such measures.

D. Remove entirely from excavations shoring and lagging within ten (10') feet from finished grade prior to completion of backfilling unless shoring or lagging is steel, wood treated in accordance with American Wood Preservers' recommendations, or tieback system.

E. Be responsible for preventing overloading portions of structure beyond calculated safe carrying capacities during and after erection.

1.13 TRAFFIC CONTROL

A. All work in streets to be per City of Stockton requirements as regards permitting, notice, days and hours of work, warning and barricading, flagging, etc.

B. Contractor is to keep streets free of mud, dirt, debris, etc.

C. <u>No equipment, materials, etc. may be unloaded while parked on East Hazelton Avenue.</u>

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END OF SECTION

SECTION 01540

SECURITY AND SAFETY

PART 1 - GENERAL

1.1 DESCRIPTION

A. This Section describes the requirements for providing site security and safety. The Contractor understands that the work will take place adjacent to an operating Public Health Office/Lab facility and the utmost care must be taken to provide a secure and safe workplace. The Public Health Office/Lab facility has its own security staff with whom the contractor will be required to cooperate.

1.2 SECURITY

A. Advise Owner's Representative of any disruptions planned or not.

B. Provide protection for materials, tools, and equipment being employed on the Project, including the tools of workers. The Owner shall not be held to have incurred any liability for loss of, and damage to, materials, tools, and equipment of the Contractor or of those employed by him/her, by Contract or otherwise.

C. The Contractor shall employ such watchman service as he/she may deem necessary to protect and safeguard the work. The Owner shall not in any way be liable for the damage or loss to the work due to trespass or theft.

D. The Owner may expand its watchman service as he/she deems necessary to protect his/her interest during the progress of the work. Any protection provided by the Owner shall not in any way relieve the Contractor of the responsibility for the safety of the work and acceptance thereof.

E. As indicated in the drawings, Contractor shall make use of existing fencing or provide temporary fencing to secure the areas of work, laydown, and office areas.

1.3 PROTECTION

A. Continuously maintain protection as necessary to protect the work as a whole and in part, and adjacent property and improvements from accidents, injuries and damage.

B. Properly protect the work:

1. With lights, guard rails, temporary covers, and barricades.

2. Enclose holes and trenches with proper barricades.

3. Brace and secure all parts of the work against storm and accident.

4. Provide traffic control devices and flagmen as necessary for work in, on or associated with the adjoining streets.

5. Provide steel plating for open trenching as required or directed.

6. Provide such additional forms of protection which may be necessary under existing circumstances.

C. Provide and maintain in good condition all protective measures required to adequately protect the public from hazards resulting from the work and to exclude unauthorized persons from the work. When regulated by Building Code or other authority, such legal requirements for protection shall be considered as minimum requirements; be responsible for the protection in excess of such minimum requirements as required.

1.4 CONTROL OF SITE

A. The Contractor shall ensure that no alcohol, firearm, weapon, or controlled substance enters or is used at the Project site. The Contractor shall immediately remove from the site and terminate the employment of any employee found in violation of this provision.

1.5 SAFETY PROGRAM

A. Within five (5) days after Notice to Proceed, Contractor shall submit a Safety Program to the Owner's Representative for review. The Contractor shall be required to comply with the Safety Program and all applicable Federal, State, and local regulation codes, rules, laws, and ordinances.

B. It is essential that the Contractor and each Subcontractor implement an effective and vigorous Safety and Health Program to cover his/her portion of the work. It shall be understood that the full responsibility for providing a safe place to work with respect to his/her portion of the work rests with each individual Contractor.

C. The Contractor and Subcontractors further agree to indemnify and hold the County, the Architect and the Owner's Representative harmless for, of, and from any loss including but not limited to fines, legal fees, penalties and corrective measures

D. Review of the Safety Program shall not relieve the Contractor of any responsibility for complying with all applicable safety regulations nor, by reviewing the Safety Program, will the Owner's Representative assume any of the Contractor's responsibilities for compliance with the said safety regulations.

E. The wearing of hard hats will be mandatory at all times for personnel on this site. The Contractor shall supply sufficient hard hats to properly equip all employees.

1.6 SAFETY REQUIREMENTS

A. Standards: Maintain the Project in accordance with the State and local safety and insurance standards.

B. Hazards Control:

1. Store volatile wastes in covered metal containers, and remove from premises daily.
2. Prevent accumulation of wastes which create hazardous conditions.
3. Provide adequate ventilation during use of volatile or noxious substances.

C. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

1. Do not burn or bury rubbish and waste materials on Project site.
2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains, building sewers.
3. Do not dispose of wastes into storm drains, sewers, streams or waterways.

D. Maintain an MSDS library at Contractors' Trailer or alternative Owner approved site at project location.

E. Provide accident information on the Contractor's forms to the Owner's Representative. This information will be provided on the same day as the occurrence of said incident.

F. The Owner will identify safety issues as they become apparent and will issue Notices of Non-Compliance to the Contractor. These notices, however, do not relieve the Contractor of the sole responsibility for safety on the job site.

END OF SECTION

SECTION 01561

SITE CLEANUP

PART 1 - GENERAL

1.1 DESCRIPTION

A. The work to be performed under this Section shall consist of furnishing all labor, materials, tools, transportation, supplies, equipment, appurtenances, fuel and power, unless specifically excepted, necessary or required for the clean-up of the work as described in these specifications.

PART 2 - EXECUTION

2.1 GENERAL CLEAN UP

A. Throughout all phases of construction, including suspension of work, and until final acceptance of the project, the Contractor shall keep the premises occupied by him in a clean and orderly condition, disposing of construction debris and refuse in a manner approved by the Owner's Representative. The cost of providing clean-up throughout the life of the contract shall be deemed to be included in the other items of work and no separate allowance will be made therefore.

2.2 EXCESS MATERIALS

A. Excess or unsuitable backfill material, broken pipe, or other waste material shall be removed from the jobsite and disposed of by the Contactor.

2.3 CONSTRUCTION DEBRIS

A. Trash, construction debris, packaging, refuse, or other waste material shall be stored in approved containers and be removed from the job site and disposed of by the Contractor.

2.4 ROADWAY MAINTENANCE

A. Spills resulting from hauling operations along or across existing streets, roads, or ramps shall be removed immediately by the Contractor. All gutters and roadside ditches shall be kept clean and free from obstructions. The Contractor shall immediately remove spills by sweeping or flushing the areas.

2.5 DUST CONTROL

A. In areas where excessive dust caused by construction operations is a nuisance to property owners, the Contractor shall frequently wet down the area to control the dust in accordance with other Sections of these Specifications.

2.6 DRAINAGE STRUCTURES

A. The contractor shall provide dams, settling ponds, or filtering structures as may be required to keep construction debris and soil erosion from entering drainage systems. Upon completion of all grading and after establishment of all landscaping, the Contractor shall clean and remove all soil, debris, etc, from drainage structures and systems.

2.7 FINAL COMPLETION

A. As a condition of final acceptance of the work, the Contractor shall carefully clean up the work and the premises, remove all temporary structures built by or for him, remove all surplus construction materials, debris, and rubbish of all kinds from the grounds which he has occupied and leave them in a neat condition.

END OF SECTION

SECTION 01660

SUBSTITUTIONS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This Section describes the procedures to be followed in requesting substitutions to specified items.

B. Definitions:

1. The manner of Specification shall determine whether a Submittal shall be considered a substitution, to be accepted or rejected according to criteria stated in this section.

2. Where Specification is by manufacturer's trade name or model designation, an item which bears different trade name or model designation will be considered a substitution.

3. Where Specification is by reference to standards of trade, industry, or governmental organizations, and the item not in compliance with standards referenced, it shall be considered a substitution.

4. An item which does not conform with descriptive, performance, or dimensional requirements shown or noted will be considered a substitution.

5. Where Specification is by combination of descriptive material, reference to standards, performance criteria, or manufacturer's trade names and there are discrepancies or conflicts between requirements specified, the Owner's Representative reserves the right to consider item a substitution which fails to satisfy one or more requirements of the Specification. Bidders who discover such discrepancies should request clarification by addendum during the bidding period.

C. "Or-Equal" products will be submitted in accordance with the substitution procedures herein to determine if they are in fact equal to the specified product or system. "Or-Equal" shall qualify as such where material, product, or system proposed "as equal" conforms with descriptive, performance, or proprietary requirements of the Specifications and requirements shown or noted in the drawings. In determining equals, the Owner's Representative/Architect/Engineer's judgment shall be final and he/she reserves the right to consider unequal any material, product, or system which, though in conformity with Contract requirements, exhibits features which the Owner's Representative deems objectionable even though not specifically disallowed by the Contract Documents.

D. Failure by the Contractor to order materials or equipment in a timely manner will not constitute justification for a substitution.

1.2 PRODUCT

A. The term "product" includes materials, systems, and equipment. Products shall be new, undamaged, of the types specified, and furnished in ample quantities to facilitate proper execution of the work.

B. An "equal" product is any material, product, thing, or service which is in all respects equal to the item specified, including, but not limited to, size, quantity, guarantees, and materials. The final determination of whether or not a proposed product is "equal" to the specified product rests with the Owner's Representative/Architect/Engineer.

C. A "substitution" is any material, product, thing, or service which may or may not be equal, as determined by the Owner's Representative/Architect/Engineer in all respects to the specified item but which is proposed by the Contractor to be used in lieu of the specified item.

D. Where available, provide standard products or types which have been produced and used previously and successfully on other Projects and in similar applications.

1.3 LIST OF PRODUCTS

A. Not later than five (5) days after the receipt of the Notice to Proceed, provide a list to the Owner's Representative showing the names of the manufacturers proposed to be used for each of the products identified in the Specifications, including substitutions and, where applicable, the name of the installer.

B. All substitution requests will be submitted in writing in a time satisfactory to the Owner's Representative, but not to exceed forty five (45) days after NTP.

C. The Owner's Representative will reply, in writing, to the Contractor stating whether after due investigation there is reasonable objection to any such proposal. If adequate data on any proposed manufacturer or installer is not available, the Owner's Representative may state that action will be deferred until the Contractor provides further data. The reply by the Owner's Representative cannot be construed as waiver of any requirement of the substitution process

1.4 CONTRACTOR'S OPTIONS

A. The Contractor has the following options:

1. For products specified only by reference standards, select any product meeting those standards, by any manufacturer.

2. For products specified by naming several products or manufacturers, select one (1) of the specified products or manufacturers or submit a request, as required by this Section, for substitution, for any product not specifically named.

3. For products specified by naming one or more products, but indicating the option of selecting equivalent products by stating "or equal", "equal to", "or approved equal", or "equivalent to", submit a request, as required by this Section, for substitution, for any product not specifically named.

4. If it is known that a specified product is not a feasible or acceptable selection, notify the Owner's Representative in writing before proceeding with the purchase of the product.

5. Where only compliance with an imposed standard, code, or regulation is required, select any product satisfying the requirement.

6. Where matching with an existing sample is required, the final decision whether a proposed product matches the sample satisfactorily is the Owner's Representative/Architect/Engineer.

7. Except as otherwise indicated, where Specifications include the statement, "... as selected from manufacturer's standard colors, patterns, textures..." or words of similar effect, the selection of manufacturer and basic product (complying with Specifications) is the Contractor's option, and the selection of color, pattern, and texture shall be the Owner's Representative/Architect/Engineer selection.

1.5 REQUIREMENTS FOR SUBSTITUTIONS

A. Products proposed for substitution shall comply with specific performances indicated and/or specified, and which are recommended by the manufacturer (in published product literature or by individual certification) for application indicated. Overall performance of a product is implied where product is specified with only certain specific performance requirements.

B. Products proposed for substitution shall have been produced in accordance with prescriptive requirements, using specified ingredients and components, and complying with specified requirements for fabricating, finishing, testing, and similar operations in manufacturing process.

C. A proposed substitution shall not be purchased or installed by the Contractor without written acceptance from the Owner's Representative/Architect/Engineer. Acceptance of any substitution shall not relieve the Contractor from responsibility for the proper execution of the work and any other requirements specified in the Contract Documents.

D. The Contractor shall be responsible for the effect of a substitution on related work in the Project, and shall pay additional costs generated by a substitution, including the costs of the Owner's Representative/Architect/Engineer's additional services and all costs for required approvals and calculations.

E. The burden of proving that the proposed substitution is “equal” to the specified product is upon the Contractor and such proof shall include sufficient factual and comparative data and information necessary to establish that the requested substitution is equal in quality, utility, structural strength, mechanical and technical performance, finish, arrangement of plan, repair and maintenance, compatibility with other existing or specified items, and any other relevant data.

F. Adjacent materials have been designed and detailed to accommodate the established standard manufacturer’s products. If one of the other approved manufacturers is selected by the Contractor, the Contractor shall design and detail all changes in all adjacent materials necessary to accommodate the selected products, shall submit such changes for review by the Owner's Representative/Architect/Engineer, shall pay for all changes to the Contract Documents (including A/E fees) to accommodate the selected products, and when approved shall make such changes to the work at no cost to the Owner.

G. The Contractor agrees to pay all Owner's Representative/Architect/Engineer or Consultant costs for reviewing the substitute product specified herein.

H. Substitutions will not be considered if:

1. They are indicated or implied on Shop Drawings or Product Data Submittals without formal request submitted in accordance with this Section.

2. Acceptance will require substantial revision of the Contract Documents.

3. The proposed product is inferior to the specified product as judged by the Owner's Representative/Architect/Engineer.

4. Request does not include sufficient data for the Owner's Representative/Architect/Engineer to make a reasonable judgement regarding the acceptability of the proposed substitution.

5. Proposed substitutions increase the cost of work or Contract time.

I. The Owner’s Representative will be judge of the acceptability of proposed substitutions, and his/her determination will be final.

J. Approval of a substitution shall not relieve the Contractor from responsibility for the proper execution of the work and other requirements of the Contract Documents.

K. If a substitution is rejected, provide the product originally specified.

1.6 REQUESTS FOR SUBSTITUTIONS

A. Submit four (4) copies of a written request for a substitution and data substantiating the request to the Owner’s Representative within 45 days after NTP and sufficiently in advance of need to allow a thorough evaluation by the Owner's Representative/Architect/Engineer. Use the form at the end of this section. Each item on form must be included.

1.7 REQUESTS FOR SUBSTITUTIONS AFTER TIME SPECIFIED

A. No substitutions of materials, products, or equipment will be considered after the time described in the above paragraphs unless the specified material cannot be delivered or incorporated into the work in the time allowed due to conditions beyond the control of the Contractor.

1.8 SUBSTITUTION PROCESSING

A. Submit substitutions with a Request for Information form provided by the Owner’s Representative. Follow the Request for Information processing requirements.

1.9 DOCUMENTATION

A. The Contractor shall support his/her proposal with sufficient information, test data, certificates, samples, or other means to permit the Owner's Representative/Architect/Engineer's to make fair, equitable, and informed judgment.

B. The burden of proof that a substitution is equal or otherwise acceptable shall be upon the Contractor. The Owner's Representative may withhold or refuse approval for reason of insufficient documentation. The Owner's Representative may also require additional tests and inspections for which cost the Contractor shall be responsible.

C. Where agencies such as State Fire Marshal or International Conference of Building Officials exercise jurisdiction over use of specific material or method, the Contractor shall submit calculations, designs and certification of their approval of proposed substitution.

1.10 THE CONTRACTOR'S RESPONSIBILITY FOR ACCEPTED SUBSTITUTIONS

A. Acceptance of substitutions shall not relieve the Contractor from responsibility for complying with requirements of the Contract Documents.

B. The Contractor shall be responsible for changes in other parts of the work occasioned by his/her substitutions and shall bear their expense, including the cost of the Owner's Representative's additional services.

1.11 THE OWNER'S REPRESENTATIVE/ARCHITECT/ENGINEER'S REVIEW

A. The Owner's Representative/Architect/Engineer, acting as the Owner's designated agent for construction of this Project, shall be the judge of whether the Contractor's proposed substitution is equal and shall make his/her judgement in accordance with the following criteria: whether the substitution proposed conforms with description or performance specified; is equal in quality; affords comparable operation, maintenance, and performance; will provide equal longevity and service; is otherwise in the Owners interest, offering advantages in cost and time.

B. A determination by the Owner's Representative/Architect/Engineer that the Contractor's proposed substitution is not equivalent for any single characteristic, figure, or quality as described in the above is sufficient ground for rejection.

1.12 REQUEST FOR SUBSTITUTION FORM

A. Required form is attached.

END OF SECTION

REQUEST FOR SUBSTITUTION FORM

Request No. _____

Date: _____

Project: **SJCo Public Health Services Bio-Safety Level 3 Modular Laboratory Site Preparation Project**

Contractor _____

Subcontractor: _____

Specification Section: _____

General Description of Substitute Item: _____

Specified Item: _____

Reason for Substitution Request: _____

A. By making this Request for Substitution, the Contractor:

1. Represents that he/she has personally investigated the proposed substitute product and certifies that it is equal or superior in all respects to the specified product.
2. Represents that he/she will provide the same warranty for the substitution that he/she would have for the specified product.
3. Certifies that the cost data presented is complete and includes all related costs under the Contract.
4. Waives all claims for additional costs or schedule impact related to the substitution which subsequently become apparent, regardless of trade or project component affected.
5. Will coordinate the installation of the substitute, making changes as may be required for the work to be complete in all respects.
6. Represents and certifies that the proposed substitute complies with all applicable regulatory requirements. The Contractor is solely responsible for securing regulatory approvals for substitutions.

B. This request includes the following information (see attachments and enclosures):

1. Complete technical data of all characteristics of the originally specified item, including drawings, reference standards, performance specifications, cost data, samples, and test reports of the product proposed for substitution. Additional information will be submitted if requested by the Architect and/or its consultants (see Attachment No. _____).
2. Data similar to that specified for the item for which the substitution is proposed (see Attachment No. _____).
3. A line-by-line comparison of characteristics between specified item and proposed substitute documenting equivalent

status. Characteristics that are different from those of the specified item are noted by highlighting or other means (see Attachment No. _____).

4. Effect on progress schedule (see Attachment No. _____).

5. Complete breakdown of costs indicating the cost amount to be added to or deducted from the Contract Sum if the proposed substitution is accepted (see Attachment No. _____).

6. List of other work, if any, which may be affected by the substitution (see Attachment No. _____).

7. Availability of maintenance service and source of replacement materials (see Attachment No. _____).

8. Sample of both the originally specified product and the proposed substitute product (see Attachment No. _____).

9. Names and addresses of at least four (4) similar projects on which the proposed substitute product has been in service for at least two (2) years following final acceptance of each project by the Project's Owner and Architect. Clearly documented dates shall show compliance (see Attachment No. _____).

10. Sample of standard form of guarantee or warranty offered by the manufacturer for the substitute product proposed (see Attachment No. _____).

11. The Contractor certifies that the proposed substitution is in compliance with the Contract Documents and applicable regulatory requirements. Documentation demonstrating code compliance (see Attachment No. _____).

C. Certifying Signatures (type in names, titles, and dates):

CONTRACTOR:

Signature:_____

Name/Title/Company:_____

Date:_____

SUBCONTRACTOR:

Signature:_____

Name/Title/Company:_____

Date:_____

MANUFACTURER (where required):

Signature:_____

Name/Title/Company:_____

Date:_____

END OF REQUEST FOR SUBSTITUTION FORM

SECTION 01700

CLOSEOUT

PART 1- GENERAL

1.1 DESCRIPTION

A. This Section describes the requirements and the administrative procedures for closing out the work, which includes but is not limited to Substantial Completion, Final Completion, and Acceptance.

1.2 PREPARATION FOR SUBSTANTIAL COMPLETION

A. When the work is substantially complete, submit the following to the Owner's Representative:

1. A written notice that the work is substantially complete.

2. A detailed, complete, and comprehensive list of items to be completed or corrected.

3. Certification that all civil, mechanical, electrical, plumbing, and equipment has been tested and is operational. The Contractor will provide copies of all test results and reports including a binder by division fully indexed, outlining all equipment and performance tests. In addition, the Contractor will certify the Owner's maintenance and operational personnel have received the specified training (see Section 01730).

4. Local, State and/or Fire Marshal approvals, if applicable.

5. All warranties, certifications, etc.

6. As builts.

B. After receipt of the above items, the Owner's Representative shall set up an inspection to determine whether or not the Project, or portion of the Project if required by the Owner's Representative, is ready for Punch List Inspection.

C. Should the Owner's Representative determine that the work is so incomplete that it does not warrant a Punch List Inspection, the Owner's Representative will:

1. Within a reasonable amount of time notify the Contractor in writing that the work is incomplete. Charges may be assessed for reinspection.

2. Instruct the Contractor to promptly remedy the deficiencies in the work, and send a second notice of Substantial Completion to the Owner's Representative.

1.3 PUNCH LIST (OMISSIONS AND DEFECTS)

A. When the Owner's Representative determines that the work is ready for the Punch List Inspection to determine Substantial Completion, the Owner's Representative will arrange for the inspection by the Owner's Representative and others as necessary.

B. The Owner's Representative and representatives of the Architect/Engineer shall prepare a Punch List.

C. The Owner's Representative will transmit the hand written Punch Lists to the Contractor. The Contractor will within five (5) working days upon receipt computerize the Punch Lists with software (Excel) and format approved by the Construction Manager and provide three (3) copies. The Contractor will add items to the computerized Punch List as they are provided by the Owner's Representative. The Contractor will update the Punch List status weekly as provided by the Owner's Representative.

D. The Contractor will provide an updated Punch List and provide status each week indicating progress until all items are complete. When all items are complete, the Contractor will request a second Punch List Inspection. The Owner and the Owner's Representative will inspect to verify completion by the Contractor and will advise items to be completed to reach Substantial Completion.

E. Beneficial Occupancy and Substantial Completion are not one and the same. The Owner has the right to beneficially occupy any portion of the Project, or the Project as a whole, at any time in accordance with the General Conditions.

1.4 SUBSTANTIAL COMPLETION

A. When the specific Punch List items have been completed and accepted, the Owner's Representative will provide a letter documenting the date of Substantial Completion. The Owner's Representative will provide a Punch List to be completed for final completion. Other items which do not conform to the Contract Documents may be added to the list at any time.

B. At Substantial Completion, the Owner has the right to move in furnishings and equipment, and initiate its transition. On all final Punch List work after the Substantial Completion, the Contractor's work force, equipment, and material may be subject to security procedures, including searches. Any delay associated with this process is part of the base Contract and will not be considered as an extra cost under the Contract.

1.5 FINAL COMPLETION

A. When the Contractor considers the work to be complete for final inspection, he/she shall submit written certification that:

1. Contract Documents have been reviewed.
2. Work has been inspected for compliance with the Contract Documents.
3. Work has been completed in accordance with the Contract Documents.
4. Work is completed and ready for final inspection.
5. Submit certified copy of final Punch List of itemized work to be completed or otherwise resolved for acceptance, endorsed and dated by the Owner's Representative and the Contractor.
6. Successfully pass final fire, life safety inspections conducted by the Fire Marshall.
7. Submit energy code certificates of compliance.

B. After receipt of the above, the Owner's Representative will set up a final inspection to determine whether or not the Project is ready for final inspection. The review shall consist of verifying that the remaining Punch List items from the Substantial Completion inspection have been completed.

C. Should the Owner's Representative find the work to be incomplete, the Owner's Representative shall advise the Contractor in writing that the work is not acceptable. The Contractor may be assessed for additional inspection costs.

D. The Contractor shall send another Certificate when the work is complete.

E. After the Owner's Representative has completed the final inspection and when the Owner's Representative finds that the work is complete under the Contract Documents, the Owner's Representative shall determine the "Date of Final Completion" and shall notify the Contractor, and the Owner. The Contractor shall proceed to prepare for final Close-Out/acceptance and shall make final Close-Out Submittals.

1.6 CLOSE-OUT/ACCEPTANCE

A. Prior to acceptance by the Owner, the Contractor shall:

1. Submit a statement showing accounting of changes to the Contract Sum.
2. Submit warranties, maintenance agreements, final certifications, and similar documents required by the Contract Documents.
3. Advise the Owner's Representative of pending insurance change-over requirements.

4. Obtain and submit releases enabling the Owner's full and unrestricted use of the work and access to services and utilities, including where required occupancy permits, operating certificates, and similar releases. Provide all release of liens and claims from subcontractors and suppliers. List all outstanding claim issues that will be litigated (see below).

5. Submit final record documents, maintenance manuals, damage or settlement surveys, property surveys, and similar final record information as required by the Contract Documents.

6. Deliver tools, spare parts, extra stocks of materials, and similar physical items to the Owner's Representative.

7. Make final change-over of locks and forward keys to the Owner's Representative. Advise the Owner's personnel of change-over in security provisions.

8. Remove all temporary facilities and services, along with construction tools and equipment, mock-ups, and similar elements.

9. Prepare final Application for Payment in accordance with the General Conditions and these Specifications.

10. The Contractor shall provide a Final Completion Report which shall consist of the following:

    a. A summary time analysis providing a justification for any time extensions being requested which have not been approved.

    b. A summary of all potential claims from the Contractor against the Owner. Attach copies of all claims made to date and new claims which are being submitted.

    c. A copy of all Record Documents and/or transmittals of Record Documents previously submitted.

    d. A copy of Operation and Maintenance Manuals and/or Transmittals of Operation and Maintenance Manuals previously provided.

    e. A copy of all training information and information establishing dates training was provided to the Owner.

    f. All materials, parts, and keys and/or a copy of transmittals of items previously provided to the Owner.

    g. A summary of all Change Requests which the Contractor believes are outstanding and are not included in the aforementioned claims.

    h. A copy of the Punch List with all items initialed off by the Owner's Representative.

    i. A release of all liens from the subcontractors and suppliers.

    j. Contractor's request for Final Payment.

    k. Additional copies of all Warranties and Guarantees

    l. Documents confirming all final testing and start-up operations which were conducted.

B. After acceptance of the work by the Owner and Notice of Completion has been filed by the county, and the proper time has elapsed, the Final Payment will be made (less any outstanding items).

END OF SECTION

SECTION 01720

RECORD DOCUMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This Section describes the requirements for maintaining records of actual conditions in the field and for changes in the work as contained on the As-Built Drawings and transcribed to become the Record Documents.

B. The purpose of final Project Record Documents is to provide factual information regarding all aspects of the work, both concealed and visible, to enable future modifications of the work to proceed without lengthy and expensive site measurement, investigation, and examination.

1.2 DOCUMENTS REQUIRED

A. Maintain at the site the following Record Documents to be turned over to the Owner upon request for Substantial Completion:

1. Drawings
2. Specifications
3. Change Orders and other modifications to the Contract
4. Field Instructions and other written instructions from the Owner’s Representative
5. Reviewed shop drawings, product data, and samples
6. Test reports
7. Requests for Information
8. Claims
9. Training

1.3 RECORDINGS

A. Label each document "PROJECT RECORD" in neat, large, printed letters.

B. Record information concurrently with the construction process.

1. Do not conceal any work until required information is recorded.
2. Completely, accurately, and legibly record, to the satisfaction of the Owner's Representative, all deviations in construction, especially pipe and conduit locations, and any deviations caused by approved changes and/or clarifications to the work.
3. Use additional copies of prints, if necessary, to insure legible recording of data.
4. Date all entries.
5. Call attention to the entry by drawing a "cloud" around the area affected.
6. In the event of overlapping changes, use different colors for each change.

C. Legibly mark drawings to record actual construction:

1. Depths of various elements of foundation in relation to finish first floor datum.

2. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permit surface improvements.

3. Locations of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.

4. Field changes of dimension and detail.

5. Changes made reflecting approved changes to the work.

6. Details not on original Contract Drawings.

D. Legibly mark each Section of the Specifications to record changes made reflecting approved changes to the work.

E. Maintain shop drawings as record drawings. Legibly annotate shop drawings to record changes made after approval.

F. Prior to submitting each request for payment, secure approval from the Owner's Representative of the current status of record documents.

G. Periodic payments or portions thereof to the Contractor may be withheld until the Owner's Representative verifies that all As-Built information to date has been properly recorded on Project Record Documents.

1.4 CONVERSION OF SCHEMATIC LAYOUTS

A. The drawings, arrangements of conduits, circuits, piping, ducts, and similar items are shown schematically and are not intended to portray precise physical layout. The final physical arrangement is determined by the Contractor, subject to the approval of the Architect/Engineer, and shall be accurately recorded by the Contractor on the record documents.

B. Show on the job set of record drawings, by dimension accurate to one inch, the centerline of each run of all items specified in the preceding paragraph.

1. Clearly identify the item by accurate note such as "cast iron drain" or "galvanized flashing", etc.

2. Show by symbol or note the vertical location of the item ("6 inches below slab", "in ceiling plenum", "exposed", etc).

3. Make all identification sufficiently descriptive that it may be related reliably to the Specifications.

C. Coordinate with the Coordination Drawings.

1.5 FINAL PROJECT RECORD DOCUMENTS

A. At a time nearing Substantial Completion of the work, obtain from the Architect/Engineer through the Owner's Representative the original CADD files of the Contract Documents. The Contractor shall provide three full sized sets from the new CADD files and two CDs containing all CADD files in AutoCAD 2007 DWG format.

B. Obtain approval from the Owner's Representative of all data recorded on the record set of prints.

C. After Substantial Completion, carefully transfer all data shown on the job set of Record Drawings to new CADD files, coordinating the information as required.

D. Clearly indicate at each affected detail and other drawings a full description of changes made during construction, and the actual location of items as previously specified.

E. "Cloud" all affected areas.

F. Identify each record drawing with the following information:

1. Project Record Document.

2. Prepared by: Contractor's name, permanent address

3. Date prepared:

4. Contractor's signature.

1.6 SUBMITTALS

A. Submit the complete set of As-Built Project Record Documents to the Owner's Representative upon request for Substantial Completion.

B. Participate in review meetings with the Owner's Representative and the Architect as required.

C. Make the required changes and promptly deliver the final Project Record Documents and the original field marked-up sets to the Owner's Representative.

END OF SECTION

SECTION 01730

OPERATING AND MAINTENANCE DATA/TRAINING

PART 1 - GENERAL

1.1 DESCRIPTION

A. This Section describes the requirements for furnishing product data and related information appropriate for Owner maintenance and operation of products furnished under the Contract. Prepare operating and maintenance data as specified in this Section and as referenced in other Sections. Check other Specification Sections for special requirements. The more restrictive will govern.

B. Instruct Owner's personnel in the maintenance of products and in the operation of equipment and systems.

1.2 QUALITY ASSURANCE

A. Preparation of data shall be done by personnel trained and experienced in maintenance and operation of the described products, completely familiar with specified requirements, skilled as a technical writer to the extent required to communicate essential data, and skilled as a draftsman competent to prepare required drawings.

1.3 FORM OF O & M SUBMITTAL

A. Prepare a detailed training plan agenda for each instructional session for all mechanical, electrical, plumbing, hardware, communications, and systems to be approved by the Owner. Each training session will be divided into two (2) parts: classroom training and on-the-job operational instructions of the equipment. Prepare data in the form of an instruction manual for use by Owner's personnel and the Contractor's instructors for classroom and job site training. The instructional/users manual will be prepared to organize and synthesize documents along with operating instruction and functional information. The manual will be used as the single source of information about the equipment and systems, operations, and functions.

B. Format:

1. Size: 8-1/2 inch x 11 inches.

2. Paper: Twenty (20) pound minimum, white, for typed pages.

3. Text: Manufacturers' printed data, or neatly typewritten.

4. Drawings: Provide reinforced punched binder tab, bind in with text.

5. Fold larger drawing to the size of the text pages.

6. Provide fly-leaf for each separate product, or each piece of operating equipment. Provide typewritten description of product, and major component parts of equipment. Provide indexed tabs.

7. Cover: Identify each volume with typed or printed title 'OPERATING AND MAINTENANCE INSTRUCTIONS". List title of Project, identity of separate structure as applicable, and identity of general subject matter covered in the manual.

C. Binders:

1. Commercial quality three-ring binders with durable and cleanable plastic covers.

1.4 CONTENT OF MANUAL

A. Neatly typewritten table of contents for each volume, arranged in a systematic order by Specification number.

B. For each Specification Section provide:

1. Contractor, name of responsible principal, address and telephone number.

2. A list of each product and certification Warranty/Guarantee required be including, indexing to the content of the volume.

3. List, with each product, the name, address, and telephone number of:

   a. Subcontractor or installer.

   b. Maintenance Contractor, as appropriate.

   c. Identify the source of responsibility of each.

   d. Local source of supply for parts and replacements.

4. Identify each product by product name and other identifying symbols as set forth in the Contract Documents.

5. Product data, drawings, written text, etc. Include description of equipment, operating procedures, maintenance procedures, service schedule, etc. For materials and finishes give product information, instruction for care, etc.

C. Copy of each Warranty, Bond and Service Contract issued.

1. Provide information sheet for Owner's personnel; include:

   a. Proper procedures in the event of failure.

   b. Instances which might affect the validity of Warranties or Bonds.

D. Provide copies of performance tests.

1.5 O & M SUBMITTAL SCHEDULE

A. Submit two (2) copies of completed data in final form at least thirty (30) days prior to the estimated date of Substantial Completion for the Architect's review. Make all corrections noted by the Owner and agents prior to their use for training and return for review. Submit two (2) hard copies of approved data in final form prior to training. Data will be used by the Inspectors and for training of Owner's personnel. Upon approval provide training prior to Substantial Completion. One (1) copy will be returned after the Substantial Completion.

1.6 INSTRUCTION OF OWNER'S PERSONNEL

A. Prior to Owner's Representative's inspection for Substantial Completion, fully instruct Owner designated operating and maintenance personnel in the operation, adjustment and maintenance of all products, equipment and systems including mechanical, electrical, plumbing, heating, or air conditioning, security, communications, and hardware systems based on the reviewed maintenance manuals.

B. The user's operating and maintenance manual, training plan and agenda shall constitute the basis of instruction with the Contractor for each piece of equipment and/or system. The Contractor will provide training schedules fourteen (14) days in advance of all training for approval by Owner.

C. The Contractor will arrange for on-site training and review of each piece of equipment and system to explain the "hands-on" operation of the systems. The Contractor will provide at least two (2) hours for the on-site instruction for the mechanical, electrical, plumbing, heating or air conditioning, security, communications, and hardware systems and equipment. In addition, the Contractor will provide at least two (2) hours of classroom instruction for the mechanical, electrical, plumbing, heating or air conditioning, communications, and hardware systems and equipment. The on-site and classroom instructions as contained in this Section are considered a minimum requirement. If conflict exists between this requirement and the Technical Specifications, Divisions 2 through 16, the more restrictive requirement will be followed.

D. Review contents of Owner's O&M Manual with personnel in full detail to explain all aspects of operation and maintenance both in the field and in the classroom.

E. The Contractor will provide, in addition to the three (3) copies of the Operation and Maintenance Manuals required for the official file, as many additional copies as are necessary for instructing the Owner's personnel (10 maximum).

F. Submit six (6) copies of the training plan and agendas for each training session for each piece of equipment and system for mechanical, electrical, plumbing, heating or air conditioning, communications, and hardware seven (7) days prior to the estimated date of Substantial Completion for review and approval by the Owner and the Owner's Representative.

G. The User's Operating and Maintenance/User's Manual, which will be used for instruction purposes, shall provide for each system the theory of operation, detailed diagrams and parts lists, preventive maintenance instruction and corrective maintenance. Narrative descriptions and diagrams will be provided in addition to standard manufacturers' data to explain systems for this Project.

END OF SECTION

SECTION 03 30 00 – CAST IN PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY:
Provide and install all reinforcement, forms, concrete and associated items required for all cast-in-place concrete as shown on the Drawings and specified herein.

1.2 GENERAL REQUIREMENTS:
This Section shall be performed in accordance with the General Conditions, Supplementary Conditions and all Sections in Division 1 of these Specifications. These documents must be read with the other Contract Documents and Sections as a whole to complete the intent of the contract.

1.3 SUBMITTALS:

A. Make submittals to the Owner's Representative in accordance with the provision of Section 013323 of these specifications.

B. Shop Drawings; Reinforcement:
Submit shop drawings for fabrication, bending and placement of concrete reinforcement. Comply with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar schedules, stirrup spacing, diagrams of bent bars and arrangement of concrete reinforcement. Include special reinforcement required at openings through concrete structures.

C. Concrete Design Mixes:
1. The preparation of design mixes will be the responsibility of the Contractor.
2. Written reports will be submitted to the Owner Representative of each proposed mix for review. Submit mix designs for each prepared mix. Submit designs in compliance with Section 013323 Submittals. Do not begin concrete production until mixes have been reviewed by the Owner Representative.
3. Adjustment of Concrete Mixes:
Mix design adjustments may be requested by the Contractor when characteristics of materials, job conditions, weather, test results and other circumstances warrant; at no additional cost to the Owner and as accepted by the Owner Representative. Provide submittals as in A above. Submit adjustment designs a minimum of 48 hours ahead of schedule for concrete production.

D. Related Materials:
1. Joint filler
2. Curing compound

1.4 CODES AND STANDARDS:
Comply with the provisions of the following codes, specifications and standards, except as otherwise shown or specified:

A. ACI 301 "Specifications for Structural Concrete for Buildings".

B. ACI 311 "Recommended Practice for Concrete Inspection".

C. ACI 318 "Building Code Requirements for Reinforced Concrete".

D. ACI 347 "Recommended Practice for Concrete Formwork".

E. ACI 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete".

F. Concrete Reinforcing Steel Institute, "Manual of Standard Practice".

G. 2010 California Building Code

PART 2 - PRODUCTS

2.1 FORM MATERIALS:

A. Forms for Exposed Finish Concrete:
Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal-framed, plywood-faced or other acceptable panel-type materials, to provide continuous, straight, smooth exposed surfaces. Furnish in largest practicable sizes to minimize number of joints, and to conform to joint system shown on Drawings. Provide form material with sufficient thickness to withstand pressure of newly-placed concrete without bow or deflection.

B. Forms for Unexposed Finish Concrete:
Form concrete surfaces that will be unexposed in finished structure with plywood, lumber, metal or other acceptable material. Provide lumber dressed on at least two (2) edges and one (1) side for tight fit.

C. Form Coatings:
Provide commercial formulation form-coating compounds that will not bond with, stain, nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.

D. Earth Forms:
Unless otherwise indicated or required by the Structural Drawings, concrete for continuous footings may be placed directly against vertical excavated surfaces provided the material will stand without caving and provided the minimum reinforcing steel clearances indicated on the Drawings are maintained and suitable provisions are taken to prevent raveling of top edges or sloughing of loose material from walls of excavation. Dimensions for continuous footings given on Drawings are based on formed surfaces; if placed against excavated surfaces, increase minimum clearances for reinforcing to 3 inches. Sides of excavation shall be made with a neat cut and the width made as detailed on the Drawings.

E. Form Ties:
Metal, spreader type or snap tie, removable to 1/4" from concrete face, designed to prevent concrete spalling upon removal. Ties for exposed concrete shall be of the same type throughout the project.

2.2 REINFORCING MATERIAL:

A. Reinforcing Bar:
ASTM A615/A 615M, Grade 60, deformed, free of loose rust.

B. Steel Wire:
ASTM A82, plain, cold-drawn, steel.

C. Tie Wire:
#16 minimum, black and annealed.

D. Anchor Bolts: ASTM F1554. Contractor may substitute post installed anchors, Simpson SET-XP, or an approved equal subject to the approval of the Modular Unit Engineer or Architect of Record.

E. Accessories:
Metal or plastic spacers, supports, ties, etc., concrete chairs, required for spacing, assembling and supporting reinforcing in place. Legs of accessories to be of the type that will rest on forms without embedding into forms. Galvanize metal items where exposed to moisture, or use approved other non-corrodible, non-staining supports.

2.3 CONCRETE MATERIALS:

A. Portland Cement:
Type II conforming to requirements of ASTM C150, Type I or II. Use only one brand of cement throughout the project, unless otherwise acceptable to Owner Representative.

B. Normal Weight Aggregates:
Conform to requirements of ASTM C33. Fine aggregate shall be clean, sharp, natural sand free from loam, clay, lumps or other deleterious substances. Maximum size shall be as indicated for each type of concrete.

C. Water:
Clean, fresh, potable.

D. Admixtures:
Admixtures may be used upon owner’s representative approval. Do not use calcium chloride or admixtures containing calcium chloride.

2.4 RELATED MATERIALS:

A. Joint Filler:
ASTM D1751 and C1752 - preformed, non-extruding asphalt saturated cellulistic fiber, Burke or equal.

B. Joint Sealer:
ASTM D1190, hot pour rubber type. Manufacturer - Burke or equal, color as approved by Owner Representative. Silicone sealant or one part Urethane Sealant or two parts Urethane - pour grade.

C. Curing Compound:
ASTM C309, Type I, Class B, Burke Aqua Resin Cure, or equal.

2.5 PROPORTIONING AND DESIGN OF MIXES:

A. Mixes will be designed to provide concrete with the following properties:
1. Type A: Slab-on-grade and ramp walls; 3,000 psi 28-day compressive strength. 1" maximum aggregate size. Maximum slump = 4 inches. Maximum water-cement ratio of 0.45. Minimum cement content of 517 lbs. per cubic yard.
2. Type B: Foundations: 2,500 psi 28-day compressive strength. 1-½" maximum size aggregate. Maximum slump = 4 inches. Maximum water-cement ratio of 0.60. Minimum cement content of 470 lbs. per cubic yard.
3. Type C: All other concrete; 3,000 psi 28-day compressive strengths. 1" maximum aggregate size. Maximum slump = 4 inches. Maximum water-cement ratio of 0.60. Minimum cement content of 470 lbs. per cubic yard.

B. Admixtures:
1. Use admixtures for water-reducing in strict accordance with the manufacturer's directions, if desired by Contractor and approved by Owner Representative.
2. Use amounts of admixtures as recommended by the manufacturer for climatic conditions prevailing at the time of placing. Adjust quantities and types of admixtures as required to maintain quality control.

C. Slump Limits:
Proportion and design mixes to result in concrete slump at the point of placement with maximum variance of 1" for a specified slump provided concrete remains properly workable.

2.6 READY-MIX CONCRETE MIXING:

A. Comply with requirements of ASTM C94, and as herein specified. Delete the references for allowing additional water to be added to the batch for material with insufficient slump. Addition of water to the batch will not be permitted.

B. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C94 may be required.
1. When the air temperature is between 85°F and 90°F, reduce the mixing and delivery time from 1½ hours to 75 minutes.
2. When the air temperature is above 90°F, reduce the mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMS:

A. Design, erect, support, brace and maintain formwork to support vertical and lateral loads that might be applied, until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation and position.

B. Design formwork to be readily removable without impact, shock or damage to cast-in-place surfaces and adjacent materials.

C. Form Ties:

Factory-fabricated, adjustable-length, removable or snap-off metal form ties, designed to prevent form deflection, and to prevent spalling concrete surfaces upon removal.

D. Provisions for Other Trades:
Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms.

E. Wetting:
Keep forms sufficiently wetted to prevent joints opening up before concrete is placed.

3.2 PLACING REINFORCEMENT:

A. Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars" for details and methods of reinforcement placement and supports, and as herein specified.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials that reduce or destroy bond with concrete.

C. Accurately position, support and secure reinforcement against displacement by formwork, construction or concrete placement operations. Locate and support reinforcing by metal chairs, runners, spacers and hangers as required.

D. Place reinforcement to obtain at least minimum coverages for concrete protection. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

E. All reinforcing in slabs to be supported by concrete chairs; hooking reinforcement in position not allowed. Place chairs immediately prior to concrete pour to prevent reinforcing from being deformed by being walked on.

3.3 JOINTS:

A. Construction Joints:
B. Locate and install construction joints as shown on the Drawings, so as not to impair the strength or appearance of the structure, as acceptable to the Owner Representative.

C. Control Joints:
Provide weakened sawcut joints as shown on the plans.

3.4 CONCRETE PLACEMENT:

A. Pre-Placement Inspection:
Before placing concrete, inspect and complete the formwork installation, reinforcing steel, and items to be embedded or cast-in. Notify other trades to permit the installation of their work; cooperate with other trades in setting such work, as required. Thoroughly wet wood forms immediately before placing concrete, as required where form coatings are not used. Coordinate the installation of joint materials and vapor barriers with placement of forms and reinforcing steel.

B. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness within the section. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete as nearly as practicable to its final location to avoid segregation due to rehandling or flowing,

C. Placing Concrete in Forms:
1. Deposit concrete in forms in horizontal layers not deeper than 24" and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.
2. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding or tamping. Use equipment and procedures for consolidation of concrete in accordance with the recommended practices of ACI 304, to suit the type of concrete and project conditions.
3. Do not use vibrators to transport concrete inside of forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than the visible effectiveness of the machine. Place vibrators to rapidly penetrate the placed layer of concrete and at least 6" into the preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion limit the duration of vibration to the time necessary to consolidate the concrete and complete embedment of reinforcement and other embedded items without causing segregation of the mix.

D. Placing Concrete Slabs:
1. Deposit and consolidate concrete slabs in a continuous operation, within the limits of construction joints, until the placing of a panel or section is complete.

2. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.
3. Bring slab surfaces to the correct level with a straightedge and strikeoff. Use bull floats or darbies to smooth the surface, leaving it free of humps or hollows. Do not sprinkle water on the plastic concrete surface. Do not disturb the slab surfaces prior to beginning finished operations.
4. Maintain reinforcing in the proper position during concrete placement operations by placing concrete chairs immediately prior to pour. Hooking reinforcing in position is not allowed.

E. Cold Weather Placing:
1. Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306.
2. Do not use calcium chloride, salt and other materials containing antifreeze agents or chemical accelerators, unless otherwise accepted in writing by the Owner Representative.

F. Hot Weather Placing:
1. When hot weather conditions exist that would seriously impair the quality and strength of concrete, place concrete in compliance with ACI 305 and as herein specified.
2. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90°F.

3. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that the steel temperature will not exceed the ambient air temperature immediately before embedment in concrete.
4. Wet forms thoroughly before placing concrete.
5. Do not use retarding admixtures unless otherwise accepted in mix designs.

3.5 FINISH OF FORMED SURFACES:

A. Smooth Form Finish:
For above-grade formed concrete surfaces covered by cement plaster or otherwise not exposed-to-view. This is the as-cast concrete surface as obtained with selected form facing material arranged orderly and symmetrically with a minimum of seams. Repair and patch defective areas with all fins or other projections completely removed and smoothed.

B. Related Unformed Surfaces:
At tops of walls, horizontal offsets and similar unformed surfaces occurring adjacent to formed surfaces, strike-off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

C. Sacking Finish:
1. At all exposed concrete, provide a sacked finish by coating the concrete wall with sacking mix.
2. Coat entire surface with sacking mortar as soon as surface of concrete approaches surface dryness.
3. Thoroughly and vigorously rub mortar over area with clean burlap pads to fill all voids.
4. Trowel with a sponge rubber float to a uniform, level surface.
5. While mortar is still plastic but partially set (so it cannot be pulled from voids), sack-rub surface with dry mix of sacking mortar (leave out water). There should be no discernible thickness of mortar on concrete surface, except in voids, all surfaces should be uniformly textured.
6. Immediately begin a continuous moist cure for 72 hours.

3.6 SLAB FINISHES:

A. All slabs to receive steel trowel finish or as otherwise noted.

B. Float Finish:
1. Apply float finish to slab surfaces that are to receive trowel finish as herein after specified.
2. After screeding and consolidating concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power-driven floats or both. Consolidate surface with power-driven floats or by hand-floating if area is small or inaccessible to power units. Check and level surface plane to a tolerance not exceeding ¼" in 10' when tested with a 10' straightedge. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.

C. Trowel Finish:

Apply trowel finish to interior monolithic slab surfaces that are to be exposed-to-view, and slab surfaces that are to be covered. After floating, first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance, and with a surface plane tolerance not exceeding 1/8" in 10' when tested with a 10' straightedge. Grind smooth surface defects which would telegraph through applied covering system.

D. Broom Finish:
Apply a medium broom finish to all ramps and walkway surfaces.

3.7 CONCRETE CURING AND PROTECTION

A. Duration:
1. Protect freshly placed concrete from premature drying and excessive cold or hot temperature, and maintain without drying at a relatively constant temperature for a period of time necessary for hydration of cement and proper hardening.
2. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 24 hours.
3. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least seven (7) days and in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.

B. Curing Methods:
1. Moisture Curing:
Provide moisture curing by keeping surface continuously wet by covering with water or a continuous water-fog spray.
2. Membrane Curing:
a. Apply membrane-forming curing compound to damp concrete surfaces at immediately upon completion of water-fog spray application. Apply uniformly in 2-coat continuous operation by power-spray equipment in accordance with manufacturer's directions. Recoat areas which are subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during curing period.
b. Do not use curing compounds on surfaces which are to be covered with a coating material applied directly to concrete or with a covering material bonded to concrete, such as flooring, painting, and other coatings and finish materials, unless otherwise acceptable to Owner Representative.

C. Curing Formed Surfaces:
Initially cure unformed surfaces, such as slabs and other flat surfaces by moist curing. Final cure unformed surfaces by membrane or moist curing, as applicable, for full curing period.

3.8 REMOVAL OF FORMS:

Formwork not supporting weight of concrete, such as sides of footings, walls, and similar parts of the work, may be removed after cumulatively curing at not less than 50°F (10°C) for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.

3.9 CONCRETE SURFACE REPAIRS:

A. Repair and patch defective areas with cement mortar immediately after removal of forms, but only when acceptable to Owner Representative.

B. Cut out honeycomb, rock, pockets, voids over ½" diameter, and holes left by tie rods and bolts, down to solid concrete, but in no case to a depth of less than 1". Make edges of cuts, perpendicular to the concrete surface. Before placing cement mortar, thoroughly clean, dampen with water and brush-coat the area to be patched with neat cement grout. Proprietary patching compounds may be used when acceptable to Owner Representative.

END OF SECTION 03 30 00

SECTION 05 12 12 - STRUCTURAL AND MISCELLANEOUS METALS

PART 1 – GENERAL

1.1 SCOPE

This section specifies structural and miscellaneous metals consisting of standard shapes, fasteners, rods and plates that are used in structural supports and connections, and for miscellaneous fabrications.

1.2 QUALITY ASSURANCE

Structural assemblies and shop welding shall meet the requirements of the AISC and AWS specifications.

The use of salvaged, reprocessed or scrap materials shall not be permitted.

A. References

This section references the following documents. They are a part of this section as specified and modified. The latest version in effect at the time of bid shall apply. In case of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

American Institute of Steel Construction (AISC), Inc.

AISC *Manual of Steel Construction*, 13th Edition

ANSI/AISC	*Seismic Provisions for Structural Steel Buildings*
AISC S326	*Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings*

American Society for Testing and Materials (ASTM) Publications

ASTM A36/A36M-04	*Standard Specification for Carbon Structural Steel*
ASTM A53	*Standard Specifications for Pipe*
ASTM A325	*Structural Bolts, Steel, Heat Treated, 120/105 KSI Minimum Tensile Strength*
ASTM 992	*Standard specification for Steel for Structural Shapes for use in Building Framing*
ASTM 1554-99	*Standard Specification for Anchor Bolts*

American Welding Society (AWS) Publications

AWS D1.1	*Structural Welding Code-Steel*

Federal Specifications (Fed Spec.)

Fed. Spec. TT-P-645A *Primer, Paint, Zinc Chromate, Alkyd Type*

2010 California Building Code

B. Qualification of Welding

Qualify welding procedures and welding operators in accordance with AWS D1.1 for steel construction. Provide certifications that welders to be employed in the work have satisfactorily passed AWS qualification tests. If re-certification of welders is required, retesting will be the Contractor's responsibility.

C. Regulatory Requirements

Except as modified by the requirements specified herein and detailed on the drawings, structural steel work shall conform to the *provision of AISC*

1.3 SUBMITTALS

The Contractor shall submit information in accordance with Section 01300, SUBMITTALS, to substantiate compliance with this specification. In addition, the following specific information shall be submitted.

Fabrication drawings
Certifications for welders

1.4 MEASUREMENT

The Contractor shall verify all dimensions and shall make any field measurements necessary and shall be fully responsible for accuracy and layout of work. The Contractor shall review the contract drawings, and any discrepancies shall be reported to the City for clarification prior to starting fabrication.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Steel

Materials for structural and miscellaneous steel shall be as specified in Table A.

TABLE A
STRUCTURAL AND MISCELLANEOUS STEEL REQUIREMENTS

Material	Specification
Structural Wide Flange Members	ASTM A992 – 50ksi yield strength
Square or rectangular members	ASTM A500 – Grade B – 46ksi yield strength
Pipe for railing	ASTM A53 – Grade B – 35 ksi yield strength
Other structural members, miscellaneous bars, plates, shapes and similar items	ASTM A36
Stainless steel bolts, nuts and washers	ASTM A320, Type 316, unless shown otherwise
Anchor bolts	ASTM F1554
Steel bolts, hex head nuts and washers	ASTM A325
Shop primer	Shall conform to Section 09 91 00, PAINTING

2.2 FABRICATION

Fabricate items of structural steel in accordance with the drawings, AISC Specifications as indicated on the approved shop drawings.

PART 3 – EXECUTION

3.1 INSTALLATION

A. General

Measurements shall be verified at the job. Holes shall be punched 1/16 in. larger than the nominal size of the bolts, unless otherwise specified. Whenever needed, because of the thickness of the metal, holes shall be subpunched and reamed or drilled. No drifting of bolts nor enlargement of holes will be allowed to correct misalignment. Mismatched holes shall be corrected with new material.

Metalwork to be embedded in concrete shall be as specified in Section 03300, CAST-IN PLACE CONCRETE. Metalwork shall be placed accurately and held in correct position while the concrete is placed; or, if specified, recesses or blockouts shall be formed in the concrete after design strength is attained, and the metalwork shall be grouted in place in accordance with Section 03300, CAST-IN-PLACE CONCRETE. The surfaces of structural steel in contact with or embedded in concrete shall be thoroughly cleaned.

Structural steel completely encased in concrete shall not be galvanized or painted and shall have a clean surface for bonding to concrete.

Metalwork which is bent, broken or otherwise damaged shall be repaired or replaced by the Contractor.

B. Welding

1. The technique of welding employed, appearance, quality of welds made, and the methods of correcting defective work shall conform to codes for Arc and Gas Welding in Building Construction of the AWS and AISC. Surfaces to be welded shall be free from loose scale, rust, grease, paint, and other foreign material, except that mill scale which will withstand vigorous wire brushing may remain. A

light film of linseed oil may likewise be disregarded. No welding shall be done when the temperature of the base metal is lower than 0°F. Finished members shall be true to line and free from twists.

2. All structural steel and reinforcing steel welding operators shall be qualified in accordance with the requirements of the current AWS D1.1, Chapter 5, and shall be certified for all positions of welding in accordance with such procedure. All aluminum welding operators shall be qualified in accordance with the requirements of the current AWS D1.2, certified for all positions of welding in accordance with such procedure. Qualification tests shall be run by a recognized testing laboratory at the Contractor's expense. Previous recent qualification by the State of California Division of Highways will be acceptable.
3. All welding operators shall be subject to examination for requalification using the equipment, materials, and electrodes employed in the execution of the contract work. Such requalification, if ordered by the Owner's Representative, shall be done at the expense of the Contractor.

C. Bolted Connections

Bolted connections shall conform to AISC *Framed Beam Connections* and shall be bearing type connections with threads excluded from shear planes.

3.2 CLEANING

After installation, damaged surfaces of shop primed metals shall be cleaned and touched up with the same material used for the shop coat.

END OF SECTION 05 12 12

SECTION 09 91 00 - PAINTING

PART 1 - GENERAL

1.1 SUMMARY:
Provide painting as shown on the Finish Schedule in the Drawings and specified herein. The type of material to be used and the number of coats to be applied are listed in the "Painting Schedule" in Part 3.00 of this Section of these Specifications. The term "paint", as used herein, included enamels, epoxies, paints, sealers, fillers, emulsions, and other coatings, whether used as prime, intermediate, or finish coats.

1.2 GENERAL REQUIREMENTS:
This Section shall be performed in accordance with the General Conditions, Supplementary Conditions and all Sections in Division 1 of these Specifications. These documents must be read with the other Contract Documents and Sections as a whole to complete the intent of the contract.

1.3 SUBMITTALS:
Make submittals to the Owner in accordance with the provisions of Section 013323 of these specifications.

1.4 PROJECT CONDITIONS:
The General Contractor is responsible to ensure all materials used in this Section meet current California V.O.C. (volatile organic compounds/chemicals) Regulations. The Owner shall be immediately notified of all V.O.C. conflicts. Work shall not proceed until conflicts are resolved.

1.5 EXTRA STOCK:
Upon completion of this portion of the Work, deliver to the Owner an extra stock of one gallon of each color and gloss used in each coating material used, with all such extra stock tightly sealed in clearly labeled containers.

PART 2 - PRODUCTS

2.1 PAINT MATERIALS:

A. Manufacturer:
1. All paint materials selected for coating systems for each type of surface shall be the product of a single manufacturer.
2. Paint materials listed herein, unless otherwise designated in the "Painting Schedule", are the product of Pittsburg and require no further approval as to manufacturer or catalog number.
3 Equivalent products of other major paint manufacturers may be used subject to approval by the Owner of the materials list and manufacturers' recommendations required to be submitted under Article 1.03 above. Equivalent product manufacturers must provide a manufacturers product reference guide demonstrating the equivalence of the product substituted to the one specified.

B. Compatibility:

1. All paint materials and equipment shall be compatible in use; finish coats shall be compatible with prime coats; prime coats shall be compatible with the surface to be coated; all tools and equipment shall be compatible with the coating to be applied.
2. Thinners, when used, shall be only those thinners recommended for that purpose by the manufacturer of the material to be thinned.

C. Colors and glosses:
All colors and glosses shall be selected and approved by the Owner.

PART 3 - EXECUTION

3.1 PREPARATION OF SURFACES, GENERAL:

A. Prior to all surface preparation and painting operations, completely mask, remove or otherwise adequately protect all hardware, accessories, machined surfaces, plates, lighting fixtures, and similar items in contact with painted surfaces but not scheduled to receive paint.

B. Spot prime all exposed nails and other metals which are to be painted with emulsion paints, using a primer recommended by the manufacturer of the coating system.

C. Before applying paint or other surface treatment, thoroughly clean all surfaces involved. Schedule all cleaning and painting so that dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

3.2 PREPARATION OF METAL SURFACES:

A. Galvanized metal:
1. Clean all surfaces thoroughly with solvent until they are completely free from dirt, soil, and grease.
2. Thoroughly treat the cleaned surface with phosphoric acid etch.
3. Remove all excess etching solution and allow to dry completely before application of paint.

B. Other metals:
1. Thoroughly clean all surfaces until they are completely free from dirt, oil, grease and old paint.
2. Allow to dry thoroughly before application of paint.

3.3 PAINT APPLICATION:

A. General:
1. Paint all surfaces, except glass, flat concrete, and similar items, not prefinished and not called out as unfinished.

B. Drying:
1. Allow sufficient drying time between coats.
2. Modify the period as recommended by the material manufacturer to suit adverse weather conditions.

C. Environmental conditions:
1. Comply with the manufacturer's recommendations as to environmental conditions under which the coating systems may be applied.
2. Do not apply paint in areas where dust is being generated.

D. Defects:
Sand and dust between coats to remove all defects visible to the unaided eye from a distance of five feet.

E. Color of undercoats:
Slightly vary the color of succeeding coats.

3.4 INSPECTION:

A. Do not apply additional coats until completed coat has been inspected and approved by the Owner.

B. Only inspected and approved coats of paint will be considered in determining the number of coats applied.

3.5 RE-INSTALLATION OF REMOVED ITEMS:
Following completion of painting in each space, promptly reinstall all items removed for painting, using only workmen skilled in the particular trade.

3.6 CLEANING UP:

A. During progress of the Work, do not allow the accumulation of empty containers or other excess items except in areas specifically set aside for that purpose. Prevent accidental spilling of paint materials and, in event of such spill, immediately remove all spilled material and the waste or other equipment used to clean up the spill, and wash the surfaces to their original undamaged condition, all at no additional cost to the Owner.

B. Upon completion of this portion of the Work visually inspect all surfaces and remove all paint and traces of paint from surfaces not scheduled to be painted.

3.7 PAINTING SCHEDULE:

Apply the following finishes to the areas designated:

Type 1: Exterior Metal (Ferrous)

First Coat:	Pittsburg Seal Grip Acrylic Primer
Second Coat:	Pittsburg Sun Proof 100% Acrylic Latex House Paint Semi-Gloss
Third Coat:	Pittsburg Sun Proof 100% Acrylic Latex House Paint Semi-Gloss

END OF SECTION 09 91 00

SECTION 26 01 19 - BASIC MATERIALS AND METHODS - ELECTRICAL

GENERAL PROVISIONS

1.1 INCLUSION OF GENERAL CONDITIONS AND DIVISION ONE:
The General Conditions, Supplemental Conditions, and Division 1, General Requirements, are a part of this Section and the Contract for this work and apply to this Section as fully as if repeated herein.

1.2 SCOPE:
Work under this Section includes all labor, materials, tools, plant equipment, transportation and perform all operations necessary for proper execution and completion of all electrical work whether specifically mentioned or not; all as indicated, specified herein, and/or implied thereby to carry out the apparent intent thereof. Items of work include, but are not limited to, the following:

A. Study work and related drawings and specifications of all other crafts whose work abuts, adjoins, or in any manner is affected by work of this section. Consult with other trades and with them expedite and coordinate materials and labor to avoid omissions and delays.

B. Complete system of 120/240 volt, single phase, three wire, wiring distributions including transfer switch and building connections as shown on the drawings.

C. Telephone conduits as shown on the drawings and specified herein.

D. Emergency generator system complete with transfer switch

E. Excavation, backfill, framing and other associated work required for the installation of the electrical system.

F. Submission of shop drawings and cut sheets.

G. As-Built drawings.

H. Tests.

I. Prepare day-by-day record of "as built" changes as specified hereinafter.

1.3 WORK NOT INCLUDED:
The following work as outlined is not included in the Electrical Contract; however, this Contractor shall cooperate with other contractors involved and shall be responsible to give complete directions on sizes of openings, locations, etc., and to insure that the completed electrical installations shall be of good workmanship and in accordance with drawings and specifications.

A. Telephone company equipment.

B. Equipment or work indicated "NIC" or "By others".

C. Mechanical Contractor shall furnish motors included in mechanical equipment.

1.4 PERMITS AND ORDINANCES:
Comply with all codes, ordinances, and authorities having jurisdiction, including all local public utility company requirements, the California Building Code and the California Electrical Code. Electrical Contractor shall procure and pay for all permits, licenses, etc. required to carry on and complete the work.

1.5 SPECIFICATION AND CONTRACT DRAWINGS:
Accuracy of data given herein and on the drawings are as exact as could be secured, but their extreme accuracy is not guaranteed. The drawings and specifications are for the assistance and guidance of the Contractor and exact locations, distances, levels, etc., will be governed by the building and the Contractor shall accept same with the understanding.

A. Drawings and specifications may be superseded by later detail specifications and detail drawings prepared by the Owner, and the Contractor shall conform to them and to such reasonable changes in the Contract drawings as may be called for by those revised drawings without extra cost. Where work called for exceeds code requirements, drawings and specifications shall take precedence.

B. Layouts of equipment, accessories and wiring systems are diagrammatic (not pictorial), but shall be followed as closely as possible. Engineering, structural and other mechanical drawings shall be examined, noting all conditions that may affect this work. Report conflicting conditions to the Owner for adjustment before proceeding with work.

C. Should Contractor proceed with work without so reporting the matter, he does so on his own responsibility, and shall alter work if directed by the Owner at his own expense. Right is reserved to make minor changes in locations of equipment and wiring systems shown, providing change is ordered before conduit runs and/or work directly connected to same is installed and no extra materials are required.

1.6 STRUCTURAL REQUIREMENTS:
Installation under this Section shall comply with the California Building Code and Title 21.

1.7 EXAMINATION OF SITE:
The Contractor shall be held to have visited the site and satisfied himself as to the conditions under which the work is to be performed. He shall check existing conditions which may affect his work. No allowance shall subsequently be made in his behalf for any extra expense to which he may be put due to failure or neglect to discover conditions affecting his work.

1.8 MANUFACTURER'S DIRECTIONS: Follow manufacturer's directions where these directions cover points not included in the drawings or in the specifications.

1.9 CLEANING:
After all work has been accomplished such as sanding, painting, etc., lighting fixtures, panelboards, and switchboards shall be cleaned to remove all dust, dirt, grease, paint, or other marks. All electrical equipment shall be left in a clean condition inside and outside, satisfactory to the Owner.

1.10 WORKMANSHIP:
Workmanship shall be of the best quality and shall be performed by skilled craftsmen to insure long and trouble-free service. The requirements of the Codes and Safety Orders are minimum standards.

1.11 REVIEW SUBMITTALS:

A. SUBMITTALS: Submit to the Owner for review, seven (7) copies of a complete submittal package/s covering the following items to be furnished under this Section. This submittal shall specifically include:
1. Basic Materials – Conduits, Conduit bodies, cables, pullboxes, etc.
2. Emergency Generator standby system.
3. Automatic Transfer Switch

For ease of maintenance and parts replacement, to the maximum extent possible use equipment of a single manufacturer. The Owner reserves the right to reject any submittal which contains equipment from various manufacturers if suitable materials can be secured from fewer manufacturers and to require that the source of materials be unified to the maximum extent possible.

When specific names are used in connection with materials, they are used as standards only, but this implies no right upon the part of the Contractor to use other materials or methods unless approved as equal in quality and utility by the Owner in writing and in accordance with provisions for substitutions previously stipulated in these specifications.

B. Shop drawings and all supporting data shall be submitted as instruments of the Contractor. Contractor shall place his stamp on the cover sheet of submittal documents, thereby stating that the equipment meets all requirements of the conditions. At least one set of submittals shall have check marks at each item indicating that the Contractor has verified compliance with the above requirements.

C. Should the original submittal of a proposed substitution be rejected, the specified item shall be furnished.

D. Within time prescribed by owner, submit (7) bound copies of brochures containing complete information and catalog cuts on all equipment including that which is to be furnished as specified. Include wiring diagrams where so required. The brochures shall be bound separately according to classifications of equipment such as power, light fixtures, fire alarm system, signals systems and miscellaneous systems. Submittals which consist of all brochures for all classifications of equipment to be furnished bound in one single book shall be returned unreviewed. Proposed substitutions shall be accompanied by catalog cuts, ratings, sizes, performance curves, shop drawings and other data complete to prove full equality to the specified item. At least one copy of the submittals for each system shall be made up of original printed manufacturer's cut sheets. Additional copies by may be made up of Xerox copies. FAX submittals are not acceptable and will be returned unreviewed.

E. Approval of a substitution does not authorize any deviation from the utility, size or function of the specified item unless specifically pointed out and approval requested in the letter of submittals. Responsibility for conflicts due to space limitations are not relieved by approval of a substitution. If revision of wiring, piping or arrangement of other equipment is necessary, after approval, furnish the Owner with (7) copies for file and future reference.

F. Unless otherwise shown or specified, material shall be new, full weight, standard, the best quality of its' kind and satisfactory to the Owner. Materials shall be stored and protected as necessary and/or required by the Owner, and the Contractor shall be entirely responsible for damage or loss from any cause. Unless otherwise shown or

specified, major equipment shall be the product of a manufacturer who has for a period of not less than five (5) years, been in successful manufacture of the equipment and who has nationally distributed catalog covering ratings and specifications of said equipment.

G. Electrical materials shall bear the label of, or be listed by, the Underwriters' Laboratories unless of a type for which label or listing service is not provided.

H. Materials and components shall conform to industrial standards including:
N.E.M.A. - National Electrical Manufacturers' Association
A.S.A. - American Standards Association
A.S.T.M. - American Society of Testing Materials
I.P.C.E.A. - Insulated Power Cable Owners' Association
C.B.M. - Certified Ballast Manufacturers

I. Samples of fixtures, materials and equipment shall be submitted for approval of Owner if requested.

1.12 CUTTING AND PATCHING:
Obtain the Owner's approval before performing any cutting or patching of concrete, masonry, or wood structure by this installation and including provisions for holes in concrete before concrete is poured.

1.13 PROTECTION:
The Contractor shall protect from damage during construction, the work and materials of other trades as well as the electrical work and materials. Electrical equipment stored and installed on the job site shall be protected from dust, water, or any other damage.

1.14 IDENTIFICATION OF EQUIPMENT:

A. Nameplates shall be installed on electrical equipment. Equipment to be labeled shall include the following:
1. Individual enclosures such as disconnect switches, time switches, pushbuttons, contactors, relays, motor starters, etc.
2. Group mounted equipment such as panelboards, switchboards, motor control devices.
3. Individual circuit breakers on switchboards.
4. Wall switches for lighting or other use where the control function is not self-evident.

B. Each panel shall be labeled externally to provide the following information as a minimum:
1. Panel name.
2. Size of feeder feeding the panel.
3. Rated voltage, amps and phases.
4. Source of feed.

C. Each main service switchboard and distribution panel shall be labeled to provide the following information as a minimum:

1. Rated voltage, amps and phases.
2. Main switch rating.
3. Feeder circuit breaker rating with name of panel or equipment fed and size of feeder to this equipment.

D. Nameplates shall adequately describe the item and its' function or use of the particular equipment involved.

E. Manufacturers label shall include date of manufacture.

F. Nameplate material shall be laminated phenolic plastic, black front and back with white core. Engraving shall be through the outer layer. Embossed plastic pressure sensitive labels are not acceptable.

G. In lieu of plastic plates, device plates shall be engraved directly with lettering filled with black enamel.

H. Nameplates shall be securely fastened to the equipment with #4 Phillips round head cadmium plated steel self-tapping screws. Fastening by adhesive is not permitted on this project.

1.15 EXACAVATION AND BACKFILL:

Perform excavation and backfill required for electrical installation. Restore surfaces, roadways, walks, curbs, walls, existing underground installations or original condition in an acceptable manner.

A. Excavation: Dig trenches straight and true to line and grade, with bottom smoothed of any rock points. Support conduit for entire length on undisturbed, original earth. Minimum conduit depth of pipe crown shall be twenty four (24") below finished or natural grade.

B. Backfill: All backfill material, placement and compaction shall conform to applicable requirements of Site Work, Section 1.

1.16 TESTS:

The entire electrical installation shall be free from short circuits and improper grounds. Test all wiring and connections for continuity and grounds before any fixtures or equipment are connected and where such tests indicate faulty insulation or other defects, they shall be located, repaired and retested at the Contractor's expense. Electrical load shall be balanced at the panelboards. Rotation of all motors shall be checked and corrected, if necessary, after final connections are made. Test all occupancy motion sensors and automatic shut off controls of lighting for proper operation. Adjust/correct where necessary. Demonstrate to the Owner that the entire installation is complete, in proper operating condition and that the Contract has been properly and fully executed. Provide all instruments to make

1.17 WORKING SPACE:

Adequate working space shall be provided around electrical equipment in strict compliance with the Electrical Safety Orders. In general, provide six and one-half feet (6'-6") of headroom and thirty-six inches (36") minimum clear work space in front of panelboards and controls for 120 volts and forty two inches (42") for 480 volts. Particular attention shall be paid to CEC Article 110 -26 and 408.

1.18 AS-BUILT DRAWINGS:

A. Upon completion of work covered by this Contract, furnish Owner with mylar transparencies, as required by the General Conditions, upon which shall be shown all changes of feeders, panels, circuits, light fixtures, etc., within building and installed under this Contract, which are not in accord with these drawings for the work. Diazo sepia

transparencies will not be acceptable.

B. In addition, furnish one tracing showing all outside utility lines, transformer pad, pull boxes, etc. installed under this Contract. Locate and dimension all work with reference to permanent landmarks.

C. All symbols and designations used in preparing "Record" drawings shall match those used in Contract drawings.

D. Properly identify all stubs for future connections, as to locations and use, by setting of concrete marker at finished grade in the manner suitable to the Owner.

1.19 GUARANTEE:
Acceptance of the Contract for this work includes this guarantee: The Contractor guarantees that he has performed the work in accordance with the Contract Documents. Contractor agrees to replace or repair, as new, any defective work, materials, or part which may appear within two years (2) of final acceptance, if, in the opinion of the Owner, the defect is due to workmanship or material.

1.20 WARRANTIES, GUARANTEES,CERTIFICATES, ETC.:
Warranties, Guarantees, Certificates, etc. that are furnished and available for equipment and materials furnished and installed under this Section shall be properly filled out as of the date of acceptance of the work and shall be delivered to the Owner.

1.21 COOPERATION AND COORDINATION:
Cooperate and coordinate with other crafts in putting the installation in place at a time when the space required by this installation is accessible. Work done without regard to other crafts shall be moved at the Contractor's expense.

1.22 FLASHING AND SEALING:
Flash and counterflash roof and wall penetrations in manner described under other applicable sections of this specification and as approved by the Owner. Conduits, ducts, etc. passing through finished walls shall be fitted with steel escutcheon plates, chrome or paint finish as directed. Conduits which penetrate floor slabs and concrete or masonry walls shall be grouted and sealed watertight at penetration.

1.23 ELECTRICAL WORK FOR MOTORS AND APPLIANCES FURNISHED BY OTHERS:

A. Work is shown on drawings according to best information available at time drawings was prepared; but this Contractor shall obtain accurate information on equipment power requirements and connection points from Contractors furnishing the actual equipment and shall install electrical work to suit at no extra cost. Should Contractor proceed with work without first verifying accuracy of the plans, he does so at his own risk and shall alter work if required at his own expense.

1.24 ACCEPTANCE BY GOVERNING AUTHORITIES:
Upon the completion of the electrical work, and as a condition of its acceptance, this Contractor shall obtain final inspections and acceptance from local building inspection agencies, utility companies, and/or other governing authorities. Deliver to the Owner verification of such acceptance.

1.25 CLEANING UP:

Keep the premises in a neat, safe and orderly condition at all times during the execution of the electrical work. Areas adjacent to the electrical work, both interior and exterior shall be free from accumulations of debris and/or shipping containers and packing. All refuse shall be removed to the area of the job site set aside for its storage. All items removed from the existing installation shall be removed from the site.

1.26 OPERATIONS AND MAINTENANCE MANUALS:

A. Submit the following prior to final acceptance and request for final payment for Division 16 work, in conformance with the Project Closeout requirements of the General Provisions.
   1. As-Built Drawings.
   2. Operation and Maintenance Manuals.

B. Provide four complete sets of Operation and Maintenance Manuals including, but not limited to, the following:
   1. Generator.

END OF SECTION 26 01 19

SECTION 26 05 15 - RACEWAYS AND FITTINGS

1.1 RACEWAYS:
All wiring shall be in raceways. Raceways shall be run in slabs, walls, above ceilings or exposed as indicated on drawings. Acceptable raceway and their limitations of use are as follows:

A. Rigid Steel Conduit may be used in all areas.
2. Standard weight, zinc coated on outside by hot dipping or sherardized process, with either zinc coating or other approved corrosion resistant coating on the inside.
3. Fittings shall be threaded and finished similar to conduit. Threadless fittings shall not be used.
4. Conduits connected to boxes and cabinets shall be fitted with two locknuts and insulated bushing, OA "A" Series.
5. Conduits not connected with locknuts and bushings shall be fitted with grounding bushing, OZ "BL" Series, U. L. approved and bonded.
6. Conduit stubs underground shall be capped with coupling, nipple, coupling and plug.
7. Conduits connected to boxes, cabinets, etc., exposed to weather or in areas subject to excessive moisture shall be fitted with watertight sealing hubs of steel or malleable iron with sealing ring and insulated throat, T & B 370 Series, Efcor 40-50B Series or approved equal.
8. Conduit shall be wrapped with black 10 mil PVC tape for underground installation. Not required to be concrete encased when run underground except at road or alley crossings.
8. Only conduit approved for use on roof and within 8 feet of grades on exterior walls. Conduit run installation on roof is not permitted on this project without written approval of the Owner.

B. Electrical Metallic Tubing (EMT):
1. Rolled steel, zinc coated outside with either zinc-coating or other approved corrosion-resistant coating on the inside.
2. Couplings shall be rain tight compression type, steel, Appleton TWC-CS Series, or approved equal. Steel couplings with set screws may be used instead.
3. Connectors shall be rain tight compression type steel with insulated throat Appleton TW-CSI Series, or approved equal. Steel connectors with set screws maybe used instead.
4. May be used:
a. Concealed in drywall partitions.
b. Exposed in telephone and electrical equipment rooms above six foot elevation.
c. Concealed above furred ceilings.
d. Exposed in fan rooms and/or plenum chambers provided location is dry.
5. May not be used:
a. Any location subject to physical damage.
b. Normal exposed locations on exterior walls, within 8 ft. of grade or roofs.
c. In boiler and mechanical rooms.
d. Any other areas not listed under (5) above unless specifically otherwise noted on the plans.

C. Poly-Vinyl-Chloride Schedule 40
1. Minimum trade size - three-fourths inch (3/4").

2. Joints shall be solvent welded.
3. All portions shall be below grade.
4. Not suitable for conduit stub for future extension.
5. A copper bonding conductor shall be pulled in each power raceway and bonded to equipment at each end with approved lugs.
6. Continuation of run above concrete slab or into building interior from underground shall be with rigid steel elbow or bend.
7. Connection to steel conduit shall be made with approved threaded adapters.

F. Conduit Support:
1. Conduit shall be supported with straps, with galvanized malleable split ring and rod for individual runs or with Kindorf, Unistrut, or approved equal channel for multiple runs. Distance between supports shall not exceed 10 feet. Conduits shall be supported independently of one another.

G. Conduit straps for individual runs shall be secured by toggle bolts on hollow masonry, expansion shields and machine screws on solid concrete or masonry, machine screws or bolts on metal surfaces and wood screws on wood construction. Use of nails to anchor straps on wood construction is prohibited. Straps shall be two hole malleable iron or snap type steel with ribbed back, galvanized or cadmium plated. Use of perforated strap iron or nail type straps is prohibited.

H. Conduit Fittings: Except where otherwise noted, conduit fittings shall be Appleton. Unilets shall be malleable iron and fitted with covers and gaskets. Aluminum fittings are not acceptable.

I. Telephone and signal conduit bends where required shall have a radius of ten times the conduit trade size.

J. Underground conduit bends shall have a minimum radius of twelve times the conduit trade size.

K. Conduits shall be capped during construction.

L. Provide pull wires in empty conduits. Pull wires shall be #12 TW in conduits 1" and smaller and 3/16" polypropolene rope in conduits 1-1/4" and larger.

M. Minimum size underground conduit shall be 3/4".

1.2 BOXES:
Boxes shall be of the shape and size best suited for the particular application and shall be supported directly to structural members, framing or blocking by means of screws, anchors, bolts or embedded in masonry.

A. Switch and receptacle box shall be one piece drawn steel boxes. Minimum size shall be four inches (4") square. Boxes shall be fitted with flush device covers, plaster rings, or tile switch rings in masonry. In areas where exposed wiring is permissible, boxes shall befitted with surface type covers. Welded steel, junction boxes may be used instead.

B. Lighting outlets shall be four inch (4") octagon, minimum fitted with three-eighths inch (3/8") malleable fixture studs.

C. Weatherproof boxes shall be Appleton FD Series or approved equals and fitted with

gasketed cast covers.

E. Boxes for special equipment shall be suitable for the particular equipment.

F. Boxes shall be located and placed according to Engineering and structural requirements.

1.3 PULL OR JUNCTION BOXES:
Install where indicated, or as required by Code, pull boxes and junction boxes of sufficient size and capacity to facilitate all wiring. Boxes shall be sized to properly accommodate all conductors entering same.

1.4 SUPPORTS:
Furnish all necessary foundations, supports, backing, etc., for all electrical enclosures, conduits and equipment. Attach all boxes, cabinets, etc. to wood with wood or lag screws, to metal with machine screws or bolts and to concrete with expansion anchors and machine screws or bolts.

Electrical lighting fixtures weighing 50 lbs. or more shall not be installed using wood screws for supports to the ceiling. Each such fixture shall have pre-stretched galvanized wires or rods anchored to the roof or structural member of the building.

1.5 CONDUCTORS:
Deliver to the site in unbroken packages, plainly marked with the manufacturer's name, date of manufacture (not more than six months old), voltage size and classification number.

A. Branch circuit conductors shall be copper conductors, Type THHN/THWN, unless otherwise noted.

B. Conductors for branch circuits installed on the roof shall be copper conductors type THWN/THHN, unless otherwise noted. Conduits.

C. Minimum size of all conductors shall be #12 AWG unless otherwise indicated on the drawings.

D. Conductors shall be as manufactured by Anaconda, General Electric, Rome Cable Co., or approved equal.

1.6 SPLICES:
Splices of #10 and smaller, including fixture tape, shall be made with Scotchlok connectors, T & B "Piggys" or approved equal.

A. Splices of #8 through #4 shall be split bolt service connectors "Kerneys", T & B "Lock Tites" or approved equal, insulated with Scotch #88 or Okeweld four-purpose tape.

B. Splices #2 and larger shall be OZ "ST" Series insulated with Scotchfil and Scotch #88 or Okeweld.

C. Splices in underground pull boxes shall be Scotchcast cast resin splices or approved equal.

D. Wire splicing devices shall be sized according to manufacturer's recommendations.

1.7 CONDUCTORS IN PANELS:
Conductors in panels, motor control centers, etc. shall be laced with T & B Ty-raps.

1.8 LUBRICANT:
Lubricant for conductor installation shall be powdered soapstone, Y-er EAS, Minerallac "Pull-In" compound or other U.L. approved lubricant. Flax soap is not approved and not permitted on the job.

1.9 SIGNAL CONDUCTORS:

A. Signal conductors shall be as listed on drawings and hereinafter specified.

B. Connections in terminal cabinets shall be on Siemens #S-66 terminal blocks with #89B bracket or approved equal.

1.10 CABLE IDENTIFICATION: Non-ferrous identifying tags or pressure sensitive labels shall be securely fastened to all cables, feeders and power circuits in pull boxes and manholes. Tags or labels shall be stamped or printed to correspond with markings on drawings or marked so that feeder or cable may be readily identified.

END OF SECTION 26 05 15

SECTION 26 10 00 - ELECTRICAL SERVICE SYSTEM

1.1 MAIN SERVICE SWITCHBOARDS:
Is existing. Make additions shown on plans.

1.2 GROUNDING AND BONDING:
Grounding and bonding shall be installed as required by the applicable codes, rules, regulations and safety orders. Attention is directed to Article 250 of the California Electrical Code.

A. The service neutral and enclosure shall be grounded.

B. All raceway systems, supports, cabinets, switchboard, control equipment, motor frames, lighting fixtures, and utilization apparatus shall be permanently and effectively grounded.

C. Where the raceway is used as equipment bond, good contact shall be made between conduit or tubing and panels, cabinets, outlet boxes and equipment, lighting, etc. to maintain continuity of equipment bond. Where it is not possible to obtain good contact, additional bonding shall be provided. Supplemental bonding shall be provided between raceway and enclosures at concentric knockouts and at reducing washers.

D. All non-metallic raceways exclusive of telephone and signal shall contain a code size copper conductor, green insulated, properly bonded to equipment at either end and to metallic portions of the same raceway.

E. All grounding type receptacles shall be bonded to outlet box, using code size copper conductor, green insulated, attached to receptacle grounding terminal and to lug or screw terminal in box.

F. Provide bonding conductor around flexible metallic conduit (Greenfield). Bonding conductor shall be inside flex.

G. Raceway size shall be increased if necessary to accommodate bonding conductors and shall be based on raceway fill tables.

H. Where cabinets are furnished with grounding bus, all required bonding conductors shall connect thereto, each with separate lug.

I. Provide a green ground conductor, sized per Code, in all flexible conduit, irrespective of whether conduit constitutes an approved ground or not.

END OF SECTION 26 10 00

SPECIFICATIONS 26 32 29 - GENERATOR SET – 150 KW GENERATOR (Alternate Bid B)

1.1 SCOPE OF WORK:
It is the intent of this specification to secure a pad mounted, engine driven generator set that has been prototype tested, factory built, production tested, and site tested, together with all accessories necessary for a complete installation as shown on the plans and drawings and specified herein. All equipment shall be new and of current production by an international firm which manufactures the generator set and controls.

Provide a complete tank of fuel at the end of testing.

1.2 GENERAL REQUIREMENTS:
It is the intent of this specification to secure a generator set system that has been tested during design verification, production and at the final job site. The generator set will be of the lasted commercial design and will be complete with all of the necessary accessories for complete installation as shown on the plans, drawings, and specifications herein. The equipment supplied and installed shall meet the requirements of the National Electrical Code, along with all applicable local codes and regulations. All equipment shall be new and of current production of a national firm that manufactures the generator set and controls, transfer switches, switchgear, and assembles the generator sets as a complete and coordinated system. There will be one source responsibility for warranty, parts, and service through a local representative with factory-trained servicemen.

1.3 SUBMITTAL:
The submittal shall include prototype test certification and specification sheets showing all standard and optional accessories to be supplied, schematic wiring diagrams, dimension drawings, and interconnection diagrams identifying by terminal number, each required interconnection between the generator set, and the transfer switch.

1.4 CODES AND STANDARDS:
The generator set shall conform to the requirements of the following codes and standards:

A. CSA C22.2, No. 14 – M91 Industrial Control Equipment.

B. EN50082-2, Electromagnetic Compatibility – Generic Immunity Requirements, Part 2: Industrial.

C. EN55011, Limits and Methods of Measurement of Radio Interference Characteristics of Industrial, Scientific and Medical Equipment.

D. IEC8528 part 4. Control Systems for Generator Sets.

E. IEC Std 801.2, 801.3, and 801.5 for susceptibility, conducted, and radiated electromagnetic emissions.

F. IEEE446 – Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications.

G. Mil Std 461D –1993. Military Standard, Electromagnetic Interference Characteristics.

H. Mil Std 462D - 1993. Military Standard, Measurement of Electromagnetic Interference Characteristics.

I. NFPA70 – National Electrical Code. Equipment shall be suitable for use in systems in compliance to Article 700, 701, and 702.

J. NFPA99 – Essential Electrical Systems for Health Care Facilities.

K. NFPA110 – Emergency and Standby Power Systems. The generator set shall meet all requirements for Level 1 systems. Level 1prototype tests required by this standard shall have been performed on a complete and functional unit, component level type tests will not substitute for this requirement.

L. UL2200. The generator set shall be listed to UL2200 or submit to an independent third party certification process to verify compliance as installed.

1.5 TESTING

To assure that the equipment has been designed and built to the highest reliability and quality standards, the manufacturer and/or local representative shall be responsible for three separate tests: design prototype tests, final production tests, and site tests.

A. Design Prototype Tests: Components of the emergency system such as the engine/generator set, transfer switch, and accessories shall not be subjected to prototype tests since the tests are potentially damaging. Rather, similar design prototypes and preproduction models shall be subject to the following tests.
   1. Maximum power (kW).
   2. Maximum motor starting (kVA) at 35% instantaneous voltage dip.
   3. Alternator temperature rise by embedded thermocouple and/or by resistance method per NEMA MG1-32.40.
   4. Governor speed regulation under steady-state and transient conditions.
   5. Voltage regulation and generator transient response.
   6. Harmonic analysis, voltage waveform deviation, and telephone influence factor.
   7. Three-phase short circuit tests.
   8. Alternator cooling air flow.
   9. Torsional analysis to verify that the generator set is free of harmful torsional stresses.
   10. Endurance testing.

B. Production Tests
   1. Final Production Tests: Each generator set shall be tested under varying loads with guards and exhaust system in place. Tests shall include:
      a. Single-step load pickup.
      b. Transient and steady—state governing.
      c. Safety shutdown device testing.
      d. Voltage regulation.
      e. Rated Power @ 0.8 PF
      f. Maximum Power.
      g. Upon request, arrangements to either witness this test will be made, or a certified test record will be sent prior to shipment.

C. Site Tests
   1. Site Tests: A start-up, and load test shall be performed by the manufacturer's local representative. The Owner, regular operators, and the maintenance staff shall be notified of the time and date of the site test. The tests shall include:

2. Fuel, lubricating oil, and antifreeze shall be checked for conformity to the manufacturer's recommendations, under the environmental conditions present and expected.
3. Accessories that normally function while the set is standing by shall be checked prior to cranking the engine. These shall include: block heaters, battery charger, etc.
4. Start-up under test mode to check for exhaust leaks, path of exhaust gases, cooling air flow, movement during starting and stopping, vibration during running, normal and emergency line-to-line voltage and frequency, and phase rotation.
5. Automatic start-up by means of simulated power outage to test remote-automatic starting, transfer of the load, and automatic shutdown. Prior to this test, all transfer switch timers shall be adjusted for proper system coordination. Engine coolant temperature, oil pressure, and battery charge level along with generator set voltage, amperes, and frequency shall be monitored throughout the test. An external load bank shall be connected to the system if sufficient building load is unavailable to load the generator set to the nameplate kW rating.

1.6 WARRANTY & MAINTENANCE

A. A one year warranty for the generator set shall be included to guarantee against defective material and workmanship in accordance with the manufacturer's published warranty from date of start-up. Optional warranties shall be available upon request.

B. The generator set manufacturer and its distributor shall maintain a 24-hour parts and service organization. This organization shall be regularly engaged in a maintenance contract program to perform preventive maintenance and service on equipment similar to that specified. A service agreement shall be available and shall include system operation under simulated operating conditions, adjustment to the generator set, transfer switch, and switchgear controls as required, and certification in the owner's maintenance log of repairs made and proper functioning of all systems.

1.7 EQUIPMENT

A. The generator set shall be a Generac SD150 with an upsized alternator or approved equal. It shall provide 150 kW, 150 kVA when operating at 120/240 volts, 1.0 power factor. The generator set shall be capable of this rating while operating in an ambient condition of 100°F (25°C) and 16 feet above sea level.

Acceptable Manufacturers:
1. Caterpillar
2. Kohler
3. Onan

B. Vibration isolators shall be provided between the engine-alternator and heavy-duty steel base.

1.8 ENGINE

A. The 6.7 liter-displacement engine. The engine shall be equipped with the following:
1. An electronic isochronous governor capable of +0.25% steady-state frequency regulation.
2. 24 Volt positive engagement solenoid shift-starting motor.

3. 45-Ampere minimum automatic battery charging alternator with solid-state voltage regulation.
4. Positive displacement, full pressure lubrication oil pump, cartridge oil filters, dipstick, and oil drain.
5. Dry-type replaceable air cleaner elements for heavy-duty applications.
   Engine-driven or electric fuel transfer pump capable of lifting fuel 10 feet, fuel filters, and electric solenoid fuel shut-off valve.

B. The turbocharged engine shall be fueled with No. 2 diesel.

C. The engine shall have a minimum of 6 cylinders, and be liquid-cooled by a unit-mounted radiator, blower fan, water pump, and thermostats. This system shall properly cool the engine with up to 0.5 inches H20 static pressure on the fan in an ambient temperature up to 113F/45C.

D. The engine shall be EPA certified thru 12/31/2014.

1.9 ALTERNATOR

A. The alternator shall be a permanent magnet brushless design.

B. The alternator shall be salient-pole, brushless, 12-lead reconnectable, self-ventilated of drip-proof construction with amortisseur rotor windings and skewed stator for smooth voltage waveform. The insulation shall meet the NEMA standard (MG1-33.40) for Class H and be insulated with epoxy varnish to be fungus resistant per MIL 1-24092. Temperature rise of the rotor and stator shall be limited to 130°C. The excitation system shall be of brushless construction controlled by a solid- state voltage regulator capable of maintaining voltage within +/- 2% at any constant load from 0% to 100% of rating. The regulator must be isolated to prevent tracking when connected to SCR loads, and provide individual adjustments for voltage range, stability and volts-per-hertz operations; and be protected from the environment by conformal coating.

C. The generator set shall meet the transient performance requirements of ISO 8528-5, level G-2.

D. The alternator excitation shall be of a permanent magnet exciter design.

E. The generator shall be inherently capable of sustaining at least 250% of rated current for at least 10 seconds under a 1-phase symmetrical short circuit without the addition of separate current support devices.

F. The alternator having a single maintenance-free bearing, shall be directly connected to the flywheel housing with a semi-flexible coupling between the rotor and the flywheel.

1.10 CONTROLLER

A. Set-mounted controller capable of facing right, left, or rear, shall be vibration isolated on the alternator enclosure. The controller shall be capable of being remote-mounted. The microprocessor control board shall be moisture proof and capable of operation from -40°C to 85°C. Relays will only be acceptable in high-current circuits.

B. Circuitry shall be of plug-in design for quick replacement. Controller shall be equipped to accept a plug-in device capable of allowing maintenance personnel to test controller

performance without operating the engine. The controller shall include the following features:

1. Fused DC circuit.
2. Complete 2-wire start/stop control, which shall operate on closure of a remote contact.
3. Speed sensing and a second independent starter motor disengagement systems shall protect against starter engagement with a moving flywheel. Battery charging alternator voltage will not be acceptable for this purpose.
4. The starting system shall be designed for restarting in the event of a false engine start, by permitting the engine to completely stop and then re-engage the starter.
5. Cranking cycler with 15-second ON and OFF cranking periods.
6. Overcrank protection designed to open the cranking circuit after 75 seconds if the engine fails to start.
7. Circuitry to shut down the engine when signal for high coolant temperature, low oil pressure, or overspeed are received.
8. Engine cooldown timer factory set at 5 minutes to permit unloaded running of the standby set after transfer of the load to normal.
9. 3-position (Automatic-OFF-TEST) selector switch. In the TEST position, the engine shall start and run regardless of the position of the remote starting contacts. In the Automatic position, the engine shall start when contacts in the remote control circuit close and stop 5 minutes after those contacts open. In the OFF position, the engine shall not start even though the remote start contacts close. This position shall also provide for immediate shutdown in case of an emergency. Reset of any fault shall also be accomplished by putting the switch to the OFF position.
10. Alarm horn with silencer switch per NFPA 110.

C. Standard indicating lights to signal the following shall be included:

1. Not-in-Auto (flashing red)
2. Overcrank (red)
3. Emergency Stop (red)
4. High Engine Temperature (red)
5. Overspeed (red)
6. Low Oil Pressure (red)
7. Battery Charger Malfunction (red)
8. Low Battery Voltage (red)
9. Low Fuel (red)
10. Auxiliary Prealarm (yellow)
11. Auxiliary Fault (red)
12. System Ready (green)

D. Test button for indicating lights.

E. Terminals shall be provided for each indicating light above, plus additional terminals for common fault and common prealarm.

1.11 INSTRUMENT PANEL

A. The instrument panel shall include the following:

1. Dual range voltmeter 3 1/2-inch, +/- 2% accuracy.
2. Dual range ammeter 3 1/2-inch, +/- 2% accuracy.
3. Voltmeter-ammeter phase selector switch.
4. Lights to indicate high or low meter scale.

5. Direct reading pointer-type frequency meter 3 1/2-inch, 0.5% accuracy, 45 to 65 Hz scale.
6. Panel-illuminating lights.
7. Battery charging voltmeter.
8. Coolant temperature gauge.
9. Oil pressure gauge.
10. Running-time meter.
11. Voltage-adjust rheostat.

1.12 ACCESSORIES

A. An 80% rated line circuit breaker of 600 amperes, 240 volt rated, molded case type, generator mounted.

B. Engine block heater. Thermostatically controlled and sized to maintain manufacturers recommended engine coolant temperature to meet the start-up requirements of NFPA-99 and NFPA-110, Level 1. Block heater to be 240V.

C. A resettable line current sensing circuit breaker with inverse time versus current response shall be furnished which protects the generator from damage due to its own high current capability. This breaker shall not trip within the 10 seconds specified above to allow selective tripping of down-stream fuses or circuit breakers under a fault condition. This breaker shall not automatically reset, preventing restoration of voltage if maintenance is being performed. A field current-sensing breaker will not be acceptable.

D. Weather housings shall be constructed of rugged steel, cleaned, phosphated, and electrocoat painted inside and out with rust inhibiting primer and exterior coat of the manufacturer's standard color. Side panels will be lockable and easily removed for servicing.

E. 10-Ampere automatic float and equalize battery charger with +/- 1% constant voltage regulation from no load to full load over +/-10% AC input line variation, current limited during engine cranking and short circuit conditions, temperature compensated for ambient temperatures from -40°C to +60°C, 5% accurate voltmeter and ammeter, fused, reverse polarity and transient protected. Battery charger to be 120V.

F. The engine exhaust silencer shall be coated to be temperature and rust resistance, rated for critical application. The silencer will reduce total engine exhaust noise by 25-35 dB(A).

G. Two flexible fuel lines rated at a minimum of 257°F and 100 psi ending in pipe thread.

H. Air cleaner restriction indicator to indicate the need for maintenance of the air cleaners.

I. Engine crankcase emission canister.

J. Run Relay to provide a three-pole, double-throw relay with 10 amps at 250 VAC contacts for indicating that the generator is running.

K. Common Failure relay to remotely signal auxiliary faults, emergency stop, high engine temperature, low oil pressure, overcrank, and overspeed via one single-pole, double-throw relay with 10 amps at 120 VAC contacts.

L. Generator rodent guards.

1.13 DOUBLE WALL SECONDARY CONTAINMENT SUB BASE FUEL TANK:

A. A sub base fuel tank used in conjunction with a diesel powered generator set of 150 kW rating will contain enough fuel to support the generator set for a period of more than 6 hours at 100% of rated load and 10 hours at 75% of rated load.

B. The sub base fuel system is listed under UL 142, sub section entitled Special Purpose Tanks EFVT category, and will bear their mark of UL Approval according to their particular classification.

C. The above ground steel secondary containment rectangular tank for use as a sub base for diesel generators is manufactured and intended to be installed in accordance with the Flammable and Combustible Liquids Code—NFPA 30, the Standard for Installation and Use of Stationary Combustible Engine and Gas Turbines—NFPA 37, and Emergency and Standby Power Systems—NFPA 110.

D. Construction:
   1. Primary Tank
      a. It will be rectangular in shape and constructed in clam shell fashion to ensure maximum structural integrity and allow the use of a full throat fillet weld.
   2. Steel Channel Support System
      a. Reinforced steel box channel for generator support, with a load rating of 5,000 lbs. per gen set mounting hole location. Full height gussets at either end of channel and at gen set mounting holes shall be utilized.
   3. Exterior Finish
      a. The exterior coating has been tested to withstand continuous salt spray testing at 100 percent exposure for 244 hours to a 5 percent salt solution at 92-97° F. The coating has been subjected to full exposure humidity testing to 100 percent humidity at 100° F for 24 hours. Tests are to be conducted in accordance with The American Standard Testing Methods Society.

E. Venting:
   1. Normal venting shall be sized in accordance with the American Petroleum Institute Standard No 2000, Venting Atmospheric and Low Pressure Storage Tanks not less than 1-1/4” (3 cm.) nominal inside diameter. A 1 -1/4" atmospheric mushroom cap shall be furnished and the installing contractor shall pipe above the highest fill point as a minimum.

F. Emergency Venting:
   1. The emergency vent opening shall be sized to accommodate the total capacity of both normal and emergency venting and shall be not less than that derived from NFPA 30, table 2-8, and based on the wetted surface area of the tank. The wetted area of the tank shall be calculated on the basis of 100 percent of the primary tank. A zinc plated emergency pressure relief vent cap shall be furnished for the primary tank. The vent is spring-pressure operated: opening pressure is 0.5/psig and full opening pressure is 2.5 psig. Limits are stamp marked on top of each vent. The emergency relief vent is sized to accommodate the total venting capacity of both normal and emergency vents.

G. Fuel Fill:
1. There shall be a 2" NPT opening within the primary tank with an 8" raised fill pipe and lockable manual fill cap.

H. Fuel Level:
1. A direct reading, UL listed, magnetic fuel level gauge with a hermetically-sealed vacuum tested dial shall be provided to eliminate fogging.

I. Low Fuel Level Switch:
1. Consists of a 50 watt float switch for local annunciation of a (50% standard) low fuel level condition.

END SECTION 26 32 29

SECTION 26 36 23 - AUTOMATIC TRANSFER SWITCHES

PART 1 GENERAL

1.1 THIS SECTION INCLUDES

A. Automatic Transfer Switch.

1.2 RELATED SECTIONS

A. Section 26 05 26: Grounding and Bonding System.

B. Section 26 32 00: Packaged Generator Assemblies

1.3 REFERENCES

A. California Electrical Code 2010 Edition.

B. UL 67. Testing of Short Circuit Duty.

PART 2- PRODUCTS

2.1 AUTOMATIC TRANSFER SWITCHES

A. Furnish and install automatic transfer switch (ATS) system with number of poles, amperage, voltage and withstand current ratings as shown on the plans. Each system shall be the product of same manufacturer as the generator assembly and shall consist of an automatic transfer switch. All ATS and control modules shall be the product of the same manufacturer.

B. Codes and standards

The automatic transfer switch and accessories shall conform to the requirements of:

9. UL 1008 - Standard for Automatic Transfer Switches.

10. California Electrical Code.

11. NFPA-110- Emergency and Standby Power Systems.

12. IEEE Standard 446 - IEEE Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications.

13. NEMA Standard ICS10-1992 (formerly ICS2-447) - AC Automatic transfer switches.

C. Acceptable Manufacturers

1. Automatic transfer switch shall be manufactured by the same manufacturer as the generator set. Any alternate shall be submitted to the consulting engineer in writing at least 15 days prior to bid. Each alternate bid must list any deviations from this specification.

D. Mechanically held transfer switch.

14. The transfer switch unit shall be electrically operated and mechanically held. The electrical operator shall be a single solenoid mechanism, momentarily energized. Main operators which include over current disconnect devices will not be accepted. The switch shall be mechanically interlocked to ensure only one of two possible positions, normal or emergency.

15. The switch shall be positively locked and unaffected by momentary outages so that contact pressure is maintained at a constant value and temperature rise at the contacts is minimized reliability and operating life.

16. All main contacts shall be silver composition. Switches rated 600 amperes and above shall have segmented, blow-on construction for high withstand current capability and be protected by separate arcing contacts.

17. Inspection of all contacts shall be possible from the front of the switch without disassembly of operating linkages and without disconnection of power conductors. A manual-operating handle shall be provided for maintenance purposes. The handle shall permit the operator to manually stop the contacts at any point throughout their entire travel to inspect and service the contacts when required.

18. Designs utilizing components of molded-case circuit breakers, contactors, or parts thereof that are not intended for continuous duty, repetitive switching or transfers between two active power sources are not acceptable.

6. Where neutral conductors must be switched as shown on the plans, the ATS shall be provided with fully-rated switched neutral contacts. The neutrals of the normal and emergency power sources shall not be connected together during the transfer and retransfer operation.

7. Where neutral conducts are to be solidly connected as shown on the plans, a neutral conductor terminal plate with fully-rated AL-CU pressure connectors shall be provided.

8. In-phase Monitor.

9. Programmable Exerciser.

10. Arc-chutes on main contacts.

E. Microprocessor Control Panel

19. The control panel shall direct the operation of the transfer switch. The panels sensing and logic shall be controlled by a built-in microprocessor for maximum reliability, minimum maintenance, and inherent serial communications capability. The control panel shall be connected to the transfer switch by an interconnecting wiring harness. The harness shall include a keyed disconnect plug to enable the control panel to be disconnected from the transfer switch for routine maintenance.

20. The control panel shall be enclosed with a protective cover and be mounted separately from the transfer switch unit for safety and ease of maintenance. Sensing and control logic shall be provided on printed circuit boards. Interfacing relays shall be industrial grade plug-in type with dust covers.

21. The control panel shall meet or exceed the requirements for Electromagnetic Compatibility (EMC) as follows:

    a. IEEE472 (ANSI C37.90A) Ring wave test.

    b. ENC55011 1991 Class A Conducted and radiated emission.

    c. IEC801-2 1991 (eN61000-4-2) Electrostatic discharge immunity, direct contact & air discharge.

    d. IEC801-3 1984 (ENV50140) Radiated electromagnetic field immunity.

    e. IEC801-4 1988 (EN61000-4-4) Electrical fast transient immunity.

    f. ENV50142 (EN61000-4-5) Surge immunity.

    g. ENV50141 HF Conducted disturbances immunity.

    h. EN61000-4-11 Voltage dips and interruptions immunity.

    i. Mil Std 461, Class 3C, Group 1 Test UM05 Radiated & conducted electromagnetic emissions.

F. Enclosure

22. The ATS system shall be supplied completely assembled in a NEMA type 3R enclosure, unless otherwise shown on the plans.

G. Operation:

Voltage and Frequency Sensing

23. The voltage of each phase of the normal source shall be monitored, with pickup adjustable from 85% to 95% of nominal, dropout adjustable from 75% to 95% of pickup setting.

24. Single-phase voltage sensing of the emergency source shall be provided with pickup voltage adjustable from 85% to 95% of nominal and independent frequency sensing with pickup adjustable from 80% to 90% of nominal.

25. Repetitive accuracy of all settings shall be within + 2% over an operating temperature range of -20 degrees C to 70 degrees C.

26. Voltage and frequency settings shall be field adjustable in 1% increments without the use of tools, meters or power supplies. Actual settings shall be clearly defined in the operator's manual.

Time Delays

27. A time delay shall be provided to override momentary normal source outages and delay all transfer and engine starting signals. Adjustable from 0.1 to 10 seconds.

28. A time delay shall be provided on transfer to normal, adjustable from 0-5 minutes for

controlled timing of transfer of loads to emergency.

29. A time delay shall be provided on retransfer to emergency, adjustable from 0 to 30 minutes. Time delay shall be automatically bypassed if emergency source fails and normal source is acceptable.

30. A time delay shall be provided on shutdown of engine generator for cool down, adjustable from 1-30 minutes.

31. All time delays shall be fully field adjustable without the use of tools.

I. Additional Features:

32. A SPST contact rated 10 amps, 32 VDC shall be provided for a low voltage engine start signal. The start signal shall prevent dry cranking of the engine by requiring the generator set to reach proper output, and run for the duration of the cool down setting, regardless of whether the normal source restores before the load is transferred. Also provide a commit/no commit to transfer selector switch to select whether the load should be transferred to the emergency generator if the normal source restores before the generator is ready to accept the load.

33. Three position switch – Fast Test, Auto, Normal Test

34. Terminals shall be provided for a remote contact, which opens to signal the ATS to transfer to emergency and for remote contacts, which open to inhibit transfer to emergency and/or retransfer to normal.

35. Auxiliary contacts, rated 10 amps, 250 VAC shall be provided consisting of one contact, closed when the ATS is connected to the normal source and one contact, closed when the ATS is connected to the emergency source.

36. Indicating lights shall be provided, one to indicate when the ATS is connected to the normal source (green) and one to indicate when the ATS is connected to the emergency source (red).

37. Terminals shall be provided to indicate the actual availability of the normal and emergency sources, as determined by the voltage sensing pickup and dropout settings for each source.

J. Testing:

1. The Automatic transfer switch shall be tested for proper operation after installation in conjunction with the standby generator. Such tests shall be carried out by a factory-trained technician of the transfer switch manufacturer.

2. As a minimum the following tests shall be carried out:

   a. Pickup and dropout voltages.
   b. Time delay settings.
   c. Start and stop signals to the standby generator.
   d. Automatic transfer of load to generator and back to normal power.
   e. All indication lights are operational.

If any of the tests fails for any reason, correct the fault and repeat the test until a successful test is achieved at no additional cost to owner.

3. Provide a written copy of all the settings in each transfer switch housing.

4. Provide 3 signed copies of the test results to the Architect.

PART 3 - EXECUTION

3.1 INSTALLATION OF TRANSFER SWITCHES

A. For floor mount transfer switches, provide 6” minimum thickness concrete housekeeping pad and securely bolt to pad using concrete expansion anchors.

B. Dowell housekeeping pad into main floor slab.

C. Set level on pad.

D. Ensure all underground conduits into the transfer switch are located within the conduit window of the switch.

E. Clean all debris on the floor and silicon seal all edges touching the floor.

F. For wall mount transfer switch, provide blocking in wall at all points of attachment of the switch to the wall.

G. Top of switch to be no more than 6’ 6” from floor finish.

H. Conduit shall enter the switch at such locations designated by the manufacturer.

END OF SECTION 26 36 23

SECTION 31 22 00 – EXCAVATING, FILLING, COMPACTING & GRADING

PART 1 - GENERAL

1.1 SUMMARY:
Excavate, backfill, compact, and grade the site to the elevations shown on the Drawings, and as specified herein.

1.2 GENERAL REQUIREMENTS:
This Section shall be performed in accordance with the General Conditions, Supplementary Conditions and all Sections in Division 1 of these Specifications. These documents must be read with the other Contract Documents and Sections as a whole to complete the intent of the contract.

1.3 SUBMITTALS:
Make submittals to the Owner's Representative in accordance with the provision of Section 013323 of these specifications.

PART 2 - PRODUCTS

2.1 FILL MATERIAL:
All fill material shall be subject to approval of the Owner's Representative. All fill material shall be soil or soil-rock mixture which is free from organic matter and other deleterious substance. It shall be of granular nature with sufficient binder to form a firm and stable, unyielding subgrade. It shall contain no rocks or lumps over three inches in greatest dimension. Engineered fill shall have a minimum R value of 40, a maximum Plasticity index of 8, passing the #4 sieve 100%, passing the #200 sieve 3% maximum. Fill shall have a coefficient of expansion of not more than 3% from air dry to saturation under a surcharge of 60 pounds per square foot at 90% compaction. Provide fill material per requirements of the Soils Report.

2.2 ON-SITE FILL MATERIAL:
All on-site fill material shall meet the requirements of Article 2.1 above. Adobe and clay soils will not be acceptable.

2.3 IMPORTED FILL MATERIAL:
All imported fill material shall meet the requirements of Article 2.1 above. Adobe and clay soils will not be acceptable. For approval of imported fill material, notify the Owner's Representative at least four (4) working days in advance of intention to import material, designate the proposed borrow area, and permit the Owner's Representative to sample as necessary from the borrow area for the purpose of making acceptance tests to prove the quality of the material.

2.4 GRANULAR CUSHION:
Granular cushion under interior concrete slabs on grade shall be clean mineral aggregate with particle size grading within the following limits:

Passing the one inch mesh:	100%
Passing the number four sieve:	not more than 5%
Passing the number 200 sieve:	not more than 1%

2.5 STRUCTURAL BACKFILL:
Provide cohesionless sand material free from organic material.

2.6 TOPSOIL:
Where and if shown on the Drawings or otherwise required, provide topsoil consisting of friable, fertile soil of loamy character, containing an amount of organic matter normal to the region, capable of sustaining healthy plant life, and reasonably free from subsoil, roots, heavy or stiff clay, stones larger than 2" in greatest dimension, noxious weeds, sticks, brush, litter, or other deleterious matter. Obtain topsoil from sources within the project limits, or provide imported topsoil obtained from sources outside the project limits, or from both sources.

2.7 OTHER MATERIALS:
All other materials, not specifically described but required for proper completion of the work of this Section, shall be as selected by the Contractor subject to the approval of the Owner's Representative.

PART 3 - EXECUTION

3.1 FINISH ELEVATIONS AND LINES:
Secure the services of a licensed land surveyor or other experienced personnel for setting and establishing finish elevations and lines. Carefully preserve all data and all monuments set and, if displaced or lost, immediately replace to the approval of the Owner's Representative and at no additional cost to the Owner.

3.2 UTILITIES:

A. Unless shown to be removed, protect active utility lines shown on the Drawings or otherwise made known to the Contractor prior to excavation. If damaged, repair or replace at no additional cost to the Owner.

B. If active utility lines are encountered, and are not shown on the Drawings or otherwise made known to the Contractor, promptly notify the Owner's Representative and take necessary steps to assure that service is not interrupted.

C. If service is interrupted as a result of work under this Section, immediately notify the Owner's Representative and restore service by repairing the damaged utility.

D. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Owner's Representative and secure his instructions.

E. Do not proceed with permanent relocation of utilities until written instructions are received from the Owner's Representative.

3.3 PROTECTION OF PERSONS AND PROPERTY:

A. Barricade open holes and depressions occurring as part of the work, and post warning lights on property adjacent to or within public access. Operate warning

lights during hours from dusk to dawn each day and as otherwise required.

B. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this section.

C. Protect trees and shrubs designated to remain.

3.4 DEWATERING:

Remove all water, including rain water, encountered during trench and sub-structure work to an approved location by pumps, drains, and other approved methods. Keep excavations and site construction area free from water.

3.5 EXCAVATING:

A. Perform excavating of every type of material encountered within the limits of the Work to the lines, grades and elevations indicated on the Drawings and specified herein. Where excavation grades are not shown on the Drawings, excavate as required to accommodate the installation.

B. Surplus materials:
Dispose of excavated material away from the site.

C. On-Site Fill:
Where excavated materials meet the standard of 2.01, Fill Materials, and are to be used for fill in this work, transport to and place in fill or storage areas within limits of the work.

D. Unsatisfactory excavated materials:
In the excavation where unsatisfactory materials are encountered at grades required for the work, excavate to a distance below grade as directed by the Owner's Representative, and replace with satisfactory materials.

E. Excavation of rock:
1. Subject to the approval of the Owner's Representative, rock encountered in the excavation may be broken into pieces not larger than three inches in maximum dimension and be incorporated in the fill material.
2. Remove from the site all rock larger than 3" in maximum dimension. Rocks and stones larger than 1/2" in maximum dimension will not be permitted within the top 12" of finished grade in those areas outside of building and paved areas.
3. Do not use explosives without the written permission from the Owner's Representative.

F. Excavate and backfill in a manner and sequence that will provide proper drainage at all times.

G. Unauthorized excavation:
1. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific instruction from the Owner's Representative.

2. Under footings, foundations or retaining walls, fill unauthorized excavations by extending the indicated bottom elevation of the footing or base to the excavation bottom, without altering the required top elevation. When acceptable to the Owner's Representative, lean concrete fill may be used to bring the bottom elevation to proper elevation.
3. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations, unless otherwise directed by the Owner's Representative.

H. Stability of excavations:
1. Slope sides of excavations to 1:1 or flatter, unless otherwise directed by the Owner's Representative. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.
2. Shore and brace where sloping is not possible because of space restrictions or stability of the materials being excavated.

I. Shoring and bracing:
Provide materials for shoring and bracing as may be necessary for safety of personnel, protection of work, and compliance with requirements of governmental agencies having jurisdiction. Maintain shoring and bracing in excavations regardless of the time period excavations will be open. Carry shoring and bracing down as excavation progresses.

J. Excavating for structures:
1. Conform to elevations and dimensions shown within a tolerance of 0.10 ft., and extending a sufficient distance from footings and foundations to permit placing and removing concrete formwork, installation of services, other construction required, and for inspection.
2. In excavating for footings and foundations, take care not to disturb bottom of excavation. Excavate by hand tools to final grade just before concrete is placed. Trim bottoms to required lines and grades to leave solid base to receive concrete.
3. Excavate for footings and foundations only after general site excavating, filling, and grading are complete.

K. Excavating for pavements:
Cut surface under pavements to comply with cross sections, elevations, and grades.

L. Cold weather protection:
Protect excavation bottoms against freezing when atmospheric temperature is less than 35°F.

3.6 FILLING AND BACKFILLING:
Place acceptable soil material in layers to required subgrade elevations. Use satisfactory on-site or imported materials.

A. Backfill excavations as promptly as progress of the Work permits, but not until completion of the following:
1. Acceptance of construction below finish grade.
2. Inspecting, testing, approving and recording locations of underground utilities.
3. Removing concrete formwork.
4. Removing shoring and bracing, and backfilling of voids with satisfactory

materials.
5. Removing trash and debris.
6. Placement of horizontal bracing on horizontally supported walls.

B. Ground surface preparation:
1. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious matter from ground surface prior to placement of fills.
2. Plow, strip, or break up sloped surfaces steeper than one vertical to four horizontal so that fill material will bond with existing surface.
3. When existing ground surface has a density less than that specified under "compacting" for the particular area, break up the ground surface, pulverize, moisture-condition to the optimum moisture content, and compact to required depth and percentage of maximum density.
4. At exposed soils in areas to be paved, scarify to a minimum depth of 8", and recompact at a moisture content that will permit proper compaction as specified for fill.

C. Placing fill:
1. Place backfill and fill materials in layers not more than 8" in loose depth.
2. Before compacting, moisten or aerate each layer as necessary to provide the optimum moisture content.
3. Do not place backfill or fill material on surfaces that are muddy, frozen or contain frost or ice.
4. Place backfill or fill material evenly adjacent to structures, to required elevations.
5. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around the structure to approximately the same elevation in each lift.

3.7 GRADING:

A. Uniformly grade the areas within the limits of grading under this Section, including adjacent transition areas. Smooth the finished surfaces within specified tolerance.

B. Where a change of slope is indicated on the Drawings, construct a rolled transition section having a minimum radius of approximately 8'0", unless adjacent construction will not permit such a transition, or if such a transition defeats positive control of drainage.

C. Grade areas adjacent to buildings to achieve drainage away from the structures, and to prevent ponding. Finish the surfaces to be free from irregular surface changes and shape the surface of areas scheduled to be under walks and pavement to line, grade, and cross-section, with finished surface not more than 0.10 ft. above or below the required subgrade elevation.

3.8 COMPACTION:

A. Control soil compaction during construction to provide the minimum percentage of density specified for each area as determined according to ASTM D1557.

B. Provide not less than the following maximum density of soil material compacted at optimum moisture content for the actual density of each layer of soil material in place and as approved by the soil engineer.
   1. Structures: Compact the top 8" of subgrade and each layer of fill material or backfill material to a minimum of 90% of maximum dry density.
   2. Lawn and unpaved areas: Compact the top 8" of subgrade and each layer of fill material or backfill material to a minimum of 90% maximum dry density. Compact the upper 12" of filled areas, or natural soils exposed by excavating, to a minimum of 85% of maximum dry density.
   3. Walks: Compact the top 8" of subgrade and each layer of fill material or backfill material to a minimum of 90% of maximum dry density.
   4. Pavements: Compact the top 8" of subgrade and each layer of fill material or backfill material to a minimum of 95% of maximum dry density.

C. Moisture control:
   1. Where subgrade or layer of soil material most be moisture conditioned before compacting, uniformly apply water to surface of subgrade or layer of soil material to prevent free water appearing on surface during or subsequent to compacting operations.
   2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compacting to the specified density.
   3. Soil material that has been removed because it is too wet to permit compacting may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing, or pulverizing until moisture content is reduced to a satisfactory value as determined by moisture-density relation tests approved by the Owner's Representative.

D. Field Quality Control:
   Secure the Owner's Representative's approval of subgrades and fill layers before subsequent construction is permitted thereon. If, in the Owner's Representative's opinion, based on reports of the testing laboratory, subgrade or fills which have been placed are below specified density, provide additional compacting to meet compaction standards.

3.9 MAINTENANCE:

A. Protect newly graded areas from traffic and erosion, and keep free from trash and weeds. Repair and reestablish grades in settled, eroded and rutted areas to the specified tolerances.

B. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify the surface, reshape, and compact to the required density prior to further construction.

3.10 PLACING GRANULAR CUSHION:
Carefully place the granular cushion where shown on the Drawings, attaining the indicated thicknesses uniformly, and providing all required transition planes.

3.11 CLEAN UP:
Upon completion of the work of this Section, remove all debris resulting from operations. Remove surplus equipment and tools. Leave the site in a neat and orderly condition acceptable to the Owner's Representative.

END OF SECTION 31 22 00

SECTION 32 10 00 – SITE CLEARING

PART 1 - GENERAL

1.5 SUMMARY:
Remove site features and clear the site as shown on the Drawings and specified herein.

1.6 GENERAL REQUIREMENTS:
This Section shall be performed in accordance with the General Conditions, Supplementary Conditions and all Sections in Division 1 of these Specifications. These documents must be read with the other Contract Documents and Sections as a whole to complete the intent of the contract.

1.7 SUBMITTALS:
Make submittals to the Owner's Representative in accordance with the provisions of Section 013323 of these specifications.

1.8 SECTION REQUIREMENTS:

A. Traffic: Minimize interference with adjoining parking lot, walks, and other adjacent occupied or used facilities during site demolition and clearing operations. Provide safety devices such as cones, barricades, tape, etc. as required to safely divert vehicular and pedestrian traffic around the project area.

B. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.

C. Notify utility locator service for area where Project is located before site demolition and clearing.

D. Do not begin demolition and site clearing operations until temporary erosion and sedimentation control measures are in place.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 PREPARATION:

A. Protect and maintain benchmarks and survey control points from disturbance.

B. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, in accordance with the erosion control plan and San Joaquin County Standards.

C. Utilities:
1. Unless shown to be removed, protect active utility lines shown on the Drawings or otherwise made known to the Contractor prior to excavation. If damaged, repair or replace at no additional cost to the Owner.
2. If active utility lines are encountered, and are not shown on the Drawings or otherwise made known to the Contractor, promptly notify the Owner's Representative and take necessary steps to assure that service is not interrupted.
3. If service is interrupted as a result of work under this Section, immediately notify the Owner's Representative and restore service by repairing the damaged utility.
4. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Owner's Representative and secure his instructions.
5. Do not proceed with permanent relocation of utilities until written instructions are received from the Owner's Representative.

D. Protection of persons and property:
1. Barricade open depressions and holes occurring as part of this Work, and post warning lights on property adjacent to or within public access. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
2. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by operations under this section.

E. Protect trees and shrubs, where indicated to remain, by providing a fence around the tree or shrub of sufficient distance away and of sufficient height so trees and shrubs will not be damaged in any way as part of this Work.

3.2 SITE CLEARING:

A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit installation of new construction. Removal includes digging out stumps and obstructions and grubbing roots. Clean out roots 1" in diameter and larger to a depth of at least 12" below the existing ground surface or subgrade of new graded surface, whichever is lower. Treat roots remaining in the soil with a weed killer approved by the Owner's Representative.

B. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.

C. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
1. Neatly saw-cut length of existing pavement and sidewalk to remain before removing existing pavement.

D. In areas not to be further excavated, fill depressions resulting from site clearing. Place and compact satisfactory soil materials in 6-inch- (150-mm-) thick layers to density of surrounding original ground.

E. Dispose of waste materials, including trash, debris, and excess topsoil, off Owner's property. Burning waste materials on-site is not permitted.

3.3 UTILITIES:
Coordinate with utility companies and agencies as required. Where utility cutting, capping or plugging is required, perform such work in accordance with requirements of the utility company or governmental agency having jurisdiction.

END OF SECTION 32 10 00

SECTION 32 12 16 – ASPHALT CONCRETE PAVING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Section Includes:
1. Asphaltic concrete paving, wearing, binder and base course.
2. Surface sealer.
3. Paving fabrics.

1.2 REFERENCES

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

B. Unless otherwise noted, standards, manuals, and codes refer to the latest edition of such standards, manuals, and codes as of the date of issue of this Project Manual.

C. Referenced Standards:
1. CalTrans Standard Specifications, Section 39.
2. American Association of State Highway and Transportation Officials:
3. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot- Mix Types.
4. AI MS-19 - Basic Asphalt Emulsion Manual.
5. ASTM D946 - Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction.
6. ASTM D3381 - Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction.

1.3 SUBMITTALS

A. Product Data: Submit product information and mix design, per Section 01 34 00.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with California Department of Transportation Public Work's standards.

B. Mixing Plant: Conform to California Department of Transportation Public Work's standards.

C. Obtain materials from same source throughout.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Do not place asphalt when ambient air or base surface temperature is less than 40 degrees F, or surface is wet or frozen.

PART 2 PRODUCTS

2.1 MATERIALS

A. Aggregate Concrete: Type B, ½" maximum, coarse aggregate in accordance with California Department of Transportation Public Work's standards. Asphalt Concrete shall have a viscosity grade of AR-4000.

B. Aggregate for Wearing Course Mix: In accordance with California Department of Transportation Public Work's standards.

C. Tack Coat: In accordance with California Department of Transportation Public Work's standards.

2.2 ASPHALT PAVING MIX

A. Use dry material to avoid foaming. Mix uniformly.

B. Base Course: In accordance with California Department of Transportation Public Work's standards.

C. Wearing Course: In accordance with California Department of Transportation Public Work's standards.

2.3 SOURCE QUALITY CONTROL AND TESTS

A. Submit proposed mix design of each class of mix for review prior to beginning of Work.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify compacted subgrade subbase is dry and ready to support paving and imposed loads. Subgrade shall be within 0.05 feet of required grades.

B. Verify gutter drainage grilles and frames, manhole frames, and are installed in correct position and elevation.

3.2 SUBBASE

A. Prepare subbase in accordance with California Department of Transportation Public Work's standards providing a minimum of Class A subgrade.

3.3 PREPARATION – PRIMER

A. Apply primer in accordance with California Department of Transportation Public Work's standards.

3.4 PREPARATION - TACK COAT

A. Apply tack coat in accordance with California Department of Transportation Public Work's standards.

3.5 PLACING ASPHALT PAVEMENT - SINGLE COURSE

A. Install Work in accordance with California Department of Transportation Public Work's standards.

B. Place asphalt within twenty-four (24) hours of applying primer or tack coat.

C. Place asphalt wearing course as indicated on the Plans.

D. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.

E. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.

3.6 PLACING ASPHALT PAVEMENT - DOUBLE COURSE

A. Place wearing course within twenty-four (24) hours of placing and compacting binder course. When binder course is placed more than twenty-four (24) hours before placing wearing course, clean surface and apply tack coat before placing wearing course.

B. Compact each course by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.

C. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.7 TOLERANCES

A. Flatness: Maximum variation of 1/4 inch measured with 10 foot straight edge.

B. Scheduled Compacted Thickness: Within 1/4 inch.

C. Variation from Indicated Elevation: Within 1/4 inch.

3.8 PROTECTION OF FINISHED WORK

A. Immediately after placement, protect pavement from mechanical injury for forty-eight (48) hours or until surface temperature is less than 140 degrees F.

END OF SECTION 32 12 16

SECTION 32 23 17 – TRENCHING, BACKFILLING AND COMPACTING

PART 1 - GENERAL

1.9 SUMMARY:
Trench, backfill, and compact as shown on the Drawings and specified herein and as required for installation of underground utilities associated with the Work.

1.10 GENERAL REQUIREMENTS:
This Section shall be performed in accordance with the General Conditions, Supplementary Conditions and all Sections in Division 1 of these Specifications. These documents must be read with the other Contract Documents and Sections as a whole to complete the intent of the contract.

1.11 SUBMITTALS:
Make submittals to the Owner's Representative in accordance with the provision of Section 013323 of these specifications.

PART 2 - PRODUCTS

2.1 FILL MATERIAL:
All fill material shall be subject to approval of the Owner's Representative. All fill material shall be soil or soil-rock mixture which is free from organic matter and other deleterious substance. It shall be of granular nature with sufficient binder to form a firm and stable, unyielding subgrade. It shall contain no rocks or lumps over three inches in greatest dimension. Engineered fill shall have a minimum R value of 40, a maximum Plasticity index of 8, passing the #4 sieve 100%, passing the #200 sieve 3% maximum. Fill shall have a coefficient of expansion of not more than 3% from air dry to saturation under a surcharge of 60 pounds per square foot at 90% compaction.

2.2 ON-SITE FILL MATERIAL:
All on-site fill material shall meet the requirements of Article 2.1 above. Adobe and clay soils will not be acceptable.

2.3 IMPORTED FILL MATERIAL:
All imported fill material shall meet the requirements of Article 2.1 above. Adobe and clay soils will not be acceptable. For approval of imported fill material, notify the Owner's Representative at least four working days in advance of intention to import material, designate the proposed borrow area, and permit the Owner's Representative to sample as necessary from the borrow area for the purpose of making acceptance tests to prove the quality of the material.

2.4 BEDDING MATERIAL:
Bedding material shall be sand, gravel, crushed aggregate, native free-draining granular material having a sand equivalent of not less than 20. Pea gravel is not acceptable. No aggregate shall exceed 1".

2.5 OTHER MATERIALS:
All other materials not specifically described but required for proper completion of the work of this Section, shall be as selected by the Contractor subject to the approval of the Owner's Representative.

PART 3 - EXECUTION

3.1 FINISH ELEVATIONS AND LINES:
For setting and establishing finish elevations and lines, secure the services of a registered civil engineer, licensed land surveyor or other experienced personnel acceptable to the Owner's Representative. Carefully preserve all data and all monuments set and, if displaced or lost, immediately replace to the approval of the Owner's Representative and at no additional cost to the Owner.

3.2 UTILITIES:

A. Unless shown to be removed, protect active utility lines shown on the Drawings or otherwise made known to the Contractor prior to excavation. If damaged, repair or replace at no additional cost to the Owner.

B. If active utility lines are encountered, and are not shown on the Drawings or otherwise made known to the Contractor, promptly notify the Owner's Representative and take necessary steps to assure that service is not interrupted.

C. If service is interrupted as a result of work under this Section, immediately notify the Owner's Representative and restore service by repairing the damaged utility.

D. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Owner's Representative and secure his instructions.

E. Do not proceed with permanent relocation of utilities until written instructions are received from the Owner's Representative.

3.3 PROTECTION OF PERSONS AND PROPERTY:

F. Barricade open holes and depressions occurring as part of the work, and post warning lights on property adjacent to or within public access. Operate warning lights during hours from dusk to dawn each day and as otherwise required.

G. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this section.

H. Protect trees and shrubs designated to remain.

3.4 DEWATERING:
Remove all water, including rain water, encountered during trench and sub-structure work to an approved location by pumps, drains, and other approved methods. Keep excavations and site construction area free from water.

3.5 TRENCHING:

I. Perform all trenching required for the installation of utilities associated for this work. Make all trenches open vertical construction with sufficient width to provide free working space at both sides of the trench and around the installed item as required for caulking, joining, backfilling, and compacting.

J. Trench as required to provide the elevations shown on the Drawings. Where elevations are not shown on the Drawings, trench to sufficient depth as indicated below to maintain a minimum cover over the top of the installed item below the finish grade or subgrade. The coverages given below are minimum standards. Verify with local governmental jurisdictions for specific required coverages.

1. Areas subject to vehicular traffic:
   - Sanitary sewers: 24"
   - Storm drains 24"
   - Electrical conduits and cables 24"
2. Areas not subject to vehicular traffic:
   - Sanitary sewers 12"
   - Storm drains 18"
3. All areas:
   - Water lines 12"
   - Natural gas lines 18"
   - Electrical cables 24"
   - Electrical conduits 18"
4. Concrete encased:
   - Sanitary sewers and storm drains 12"
   - Electrical conduits 12"

K. Where utilities are under a concrete structure slab or pavement, the minimum depth need only be sufficient to completely separate the conduit or pipe sleeve, and electrical long-radius rigid metal conduit riser from the concrete slab, provided it will not interfere with the structural integrity of the slab or pavement.

L. Where the minimum cover is not provided, encase the pipes in concrete 6" thick as indicated on the Drawings. Provide concrete with a minimum 28-day compressive strength of 2500 psi.

M. Where trench excavation is inadvertently carried below proper elevation, backfill with approved material and then re-compact to provide a firm and unyielding subgrade and/or foundation to the approval of the Owner's Representative and at no additional cost to the Owner.

N. Shoring and bracing:
Provide materials for shoring and bracing as may be necessary for safety of personnel, protection of work, and compliance with requirements of governmental agencies having jurisdiction. Maintain shoring and bracing in excavations regardless of the time period excavations will be open. Carry shoring and bracing down as excavation progresses.

O. Grading and stockpiling trenched material:
Control the stockpiling of trenched material in a manner to prevent water running into the excavations. Do not obstruct the surface drainage but provide means whereby storm and waste waters are diverted into existing gutters, other temporary drains, or surface drains.

P. Where utility runs traverse public property or are subject to governmental or utility company jurisdiction, provide depth, bedding, cover, and other requirements as set forth by legally constituted authority having jurisdiction, but in no case less than the depth shown in the Contract Documents.

Q. Where trenching occurs in existing lawns, remove turf in sections and keep damp. Replace turf upon completion of the backfilling.

3.6 FOUNDATION FOR PIPES:

R. Grade the trench bottoms to provide a smooth, firm, and stable foundation free from rock points throughout the length of the pipe.

S. Place a minimum of six inches of the specified backfill material in the bottom of the trench.

T. Subsurface conditions:
In areas where soft, unstable materials are encountered at the surface upon which non-expansive material is to be placed, remove the unstable material and replace it with material approved by the Owner's Representative, making sufficient depth to develop a firm foundation for the item being installed. If the need for such over excavation has been occasioned by an act or failure to act on the part of the Contractor, make the over excavation and replacement at no additional cost to the Owner.

3.7 BEDDING FOR PIPES:

U. Place the specified bedding material in the trench, simultaneously on each side of the pipe, for the full width of the trench to a minimum depth of 1' above the outside diameter of the pipe barrel.

V. Densify the bedding material after placing by thoroughly compacting with mechanical tampers after bringing to required moisture content. Take special care to provide firm bearing support on the underside of the pipe and fittings for the full length of the pipe.

W. Other bedding procedures and materials may be used if prior written approval has been obtained from the Owner's Representative.

3.8 BACKFILL FOR PIPES:
Place approved backfill in layers which will compact to six inches maximum, concurrently on both sides of trench. Thoroughly compact each layer with mechanical tampers bringing to 90% maximum dry density. Compaction by jetting with water is expressly prohibited.

3.9 TEST FOR DISPLACEMENT OF SEWERS AND STORM DRAINS:

X. Check sewers and storm drains to determine whether displacement has occurred after the trench has been backfilled to above the pipe and has been compacted as specified.

Y. Flash a light between manholes or, if the manholes have not yet been constructed, between the locations of the manholes, by means of a flashlight or by reflecting sunlight with a mirror.

Z. If the illuminated interior of the pipe line shows poor alignment, displaced pipes, or any other defects, correct the defects to the specified conditions and at not additional cost to the Owner.

END OF SECTION 31 23 17

SECTION 33 41 00 – PIPED UTILITY MATERIALS

PART 1 - GENERAL

1.12 SUMMARY:
Provide and install piped utility materials as shown on the Drawings and specified herein including but not limited to pipe, fittings, valves, valve boxes, pipe supports and hose bibbs.

1.13 GENERAL REQUIREMENTS:
This Section shall be performed in accordance with the General Conditions, Supplementary Conditions and all Sections in Division 1 of these Specifications. These documents must be read with the other Contract Documents and Sections as a whole to complete the intent of the contract.

1.14 REGULATORY REQUIREMENTS:

A. California Plumbing Code, 2010

B. California Health and Safety Code

C. California Green Building Code Standards

D. City of Stockton Standards for Public Works Construction

1.15 SUBMITTALS:

A. Make submittals to the Owner's Representative in accordance with the provision of Section 013323 of these specifications.

B. Product Data: Submit manufacturer's catalog cuts of pipe, fittings, joints and couplings; valves; hose bibs and valve boxes.

C. One (1) a set of Contract Drawings, kept at the site during construction, the Contractor shall mark work that is installed differently from that shown. Locate materials installed underground by dimensions from fixed identifiable points whether installed as shown on the drawings or not. See Record Documents Section 017000.

PART 2 - PRODUCTS

2.1 MATERIALS:

A. WATER LINES:
1. Pipe 3" in diameter or smaller shall be polyvinyl chloride conforming to ASTM D 1785-83, Schedule 80. Fittings shall be socket type Schedule 80 polyvinyl chloride with solvent welded joints.
2. Hose Bibb riser pipe shall be galvanized iron pipe, schedule 80.
3. Ball Valves 4 inch and Smaller: Apollo 90, 5044, T580, 575 threaded: 5049, S580, 757SJ solder joint, bronze body with stainless steel or chrome plated

brass ball, Teflon seats and packing, blowout-proof stem, 400 PSI WOG or approved equals. Provide a union on one side of each valve.

4. Valve Boxes: Boxes for valves shall be precast concrete in conformance with the City of Stockton Standard Specifications for Public Works Construction.
5. Hose Bibbs shall be ZURN Z1341-P12-LK or equal looskey hosebibb. Provide with vacuum breaker.

B. SANITARY SEWER LINES:
Pipe shall be polyvinyl chloride (PVC) conforming to ASTM D3034, SDR 35 with joints conforming to ASTM D3212, or service weight cast iron pipe and fittings with No-Hub fittings.

C. STORM DRAIN LINES:
1. Pipe 10" in diameter and larger, and with 30" or more cover in traffic areas, or all pipe located outside traffic areas shall be PVC conforming to ASTM D3034, SDR 35 with joints conforming to ASTM D3212, or Reinforced Concrete Pipe (RCP) per ASTM C76, Class III, with Rubber Gasketed Joints.
2. Pipe 10" in diameter and larger with less than 30" of cover and located in traffic areas shall be RCP per ASTM C76, Class III, with Rubber Gasketed Joints.
3. Pipe 8" in diameter and smaller with 30" or more cover in traffic areas or all pipe located outside of traffic areas, shall be PVC per ASTM D3034, SDR 35 with joints conforming to ASTM D3212, or service weight cast iron pipe and fittings with No-Hub Joints.
4. Pipe 8" in diameter or smaller with less than 30" of cover and located in traffic areas shall be service weight cast iron pipe and fittings with No-Hub Joints.

D. CONCRETE WORK:
Concrete work shall conform to Section 03300.

E. CONNECTIONS TO PLUMBING SYSTEMS:
Make connections of service laterals to plumbing facilities at a location as indicated on the BSL III pre-manufactured unit drawings, or as otherwise indicated on Drawings.

PART 3 - EXECUTION

3.1 INSTALLATION:

A. All work shall be in accordance with the City of Stockton Standard Specifications for Public Works Construction and Drawings unless otherwise specified or shown.

B. All trenching and backfill shall be in accordance with section 32 23 17 Trenching Backfill Compacting.

C. Mount hose bibb securely to 2X2X1/8” steel post set in concrete in location shown on site plans. Embed post a minimum of 12” below grade and extend post 24” above finished grade.

3.2 TESTS AND START-UP:

A. Furnish all required labor, materials, and equipment for testing and proving tight all work and piping; replace equipment, materials, piping, and workmanship found to be defective or unsatisfactory.

B. Test all piping in maximum practical sections before covering or concealment.

C. Flush water piping with clear water at as high velocities as are attainable. Eliminate air from system. Test piping with water under pump pressure of 100 psi minimum. Allowable pressure loss of the private fire water main shall be equivalent to that required by the City on the public water main. Certification of test results shall be presented to the Architect prior to final acceptance.

D. Sewer, vent and other Drain Lines – Plug openings, Fill pipe with water and test for leaks by observing the water level over a 24 hour period. Water level shall remain unchanged.

E. Sterilization of Water Lines:
   1. Disinfect all domestic water lines with 1% solution of chlorine. Contractor shall circulate solution for 48 hours in the domestic water lines. Lines shall then be drained and flushed until chlorine reading is at or below normal municipality levels. Contractor shall then test system for bacteria and other devices per EPA and DWR requirements. If the system does not past these tests, contractor shall disinfect lines until the systems passes at no additional cost to the owner.
   2. Sterilizing or disinfecting shall be done by an independent company specializing in water treatment.

F. Rodding Sewers: All sanitary sewer lines shall be rodded out. Rodding shall be accomplished utilizing a rotary cutter which shall be full size of pipe being cleaned. The lines shall be flushed simultaneously. Rodding shall not take place until building is complete, but prior to occupancy. This work shall be done in the presence of the Inspector.

END OF SECTION 33 41 00